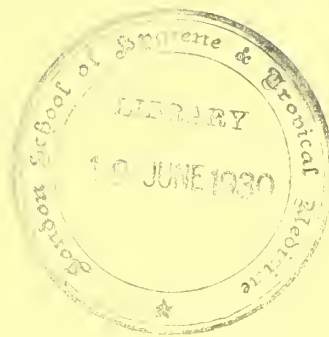


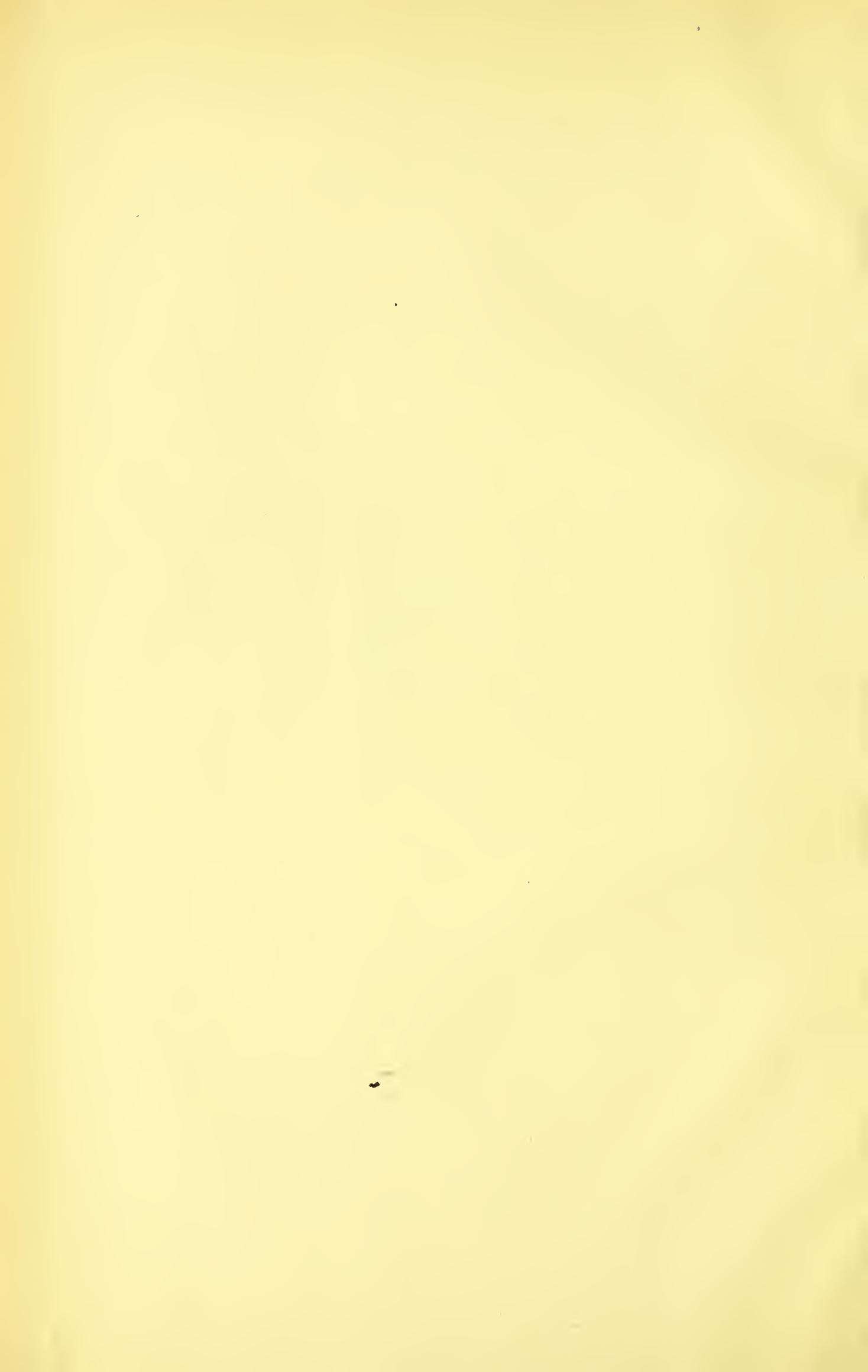
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DEPARTMENTAL COMMITTEE ON THE AMBULANCE
SERVICE IN THE METROPOLIS.

REPORT
OF THE
AMBULANCE COMMITTEE.

Volume I.—REPORT AND APPENDICES.

Presented to both Houses of Parliament by Command of His Majesty.



LONDON:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE,
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DEPARTMENTAL COMMITTEE ON THE AMBULANCE SERVICE IN
THE METROPOLIS.

MINUTE OF APPOINTMENT.

I hereby appoint—

SIR KENELM EDWARD DIGBY, G.C.B., K.C.,

THE EARL OF STAMFORD, and

SIR WILLIAM COLLINS, M.P.

to be a Committee to inquire as to the provision made for dealing with cases of accident and sudden illness occurring in streets and public places within the Metropolis, and to report whether any, and if so what, improvements in ambulance provision are necessary or desirable, and how they could be best effected with due regard to efficiency and economy.

And I further appoint Sir Kenelm Edward Digby, G.C.B., K.C., to be Chairman, and Mr. Arthur Lewis Dixon, Esquire, of the Home Office, to be Secretary of the Committee.

(Signed) H. J. GLADSTONE,

*One of His Majesty's Principal
Secretaries of State.*

WHITEHALL,

7th December, 1906.

R E P O R T.

TO THE RIGHT HONOURABLE HERBERT JOHN GLADSTONE, M.P., HIS MAJESTY'S SECRETARY
OF STATE FOR THE HOME DEPARTMENT.

SIR,

We have the honour to present our Report on the inquiry you instructed us to make with reference to the methods of dealing with cases of accident and sudden illness occurring in streets and public places within the Metropolis.

We have held 24 meetings and examined 32 witnesses. We have also been furnished with documentary information of great value ; copies of the most important documents are printed in the Appendices. We may refer especially to the tables in Appendix II., furnished by the Commissioner of Metropolitan Police, giving valuable information as to the working of the present method of dealing with cases of accident and sudden illness occurring in streets and public places, including figures as to the number of cases, the mode of conveyance, the distance of the place where the casualty occurred from the nearest hospital and the nearest wheeled litter, and so on.

We have also obtained very valuable returns from most of the principal London Hospitals stating, as respects a period of a fortnight or a month or more, the nature of the cases received at the several hospitals, the mode of conveyance, the approximate time taken on the journey, whether First Aid was rendered, and also, in a large number of the cases, indicating whether or not the case was prejudiced on account of the nature of the conveyance used or inefficient First Aid, and, if so, by what measures the requirements of the case would have been met. These returns and a copy of the form of inquiry sent to the hospitals are set out in Appendix I.

We have visited Liverpool and Manchester, and inquired into the working of the ambulance systems established in those cities. Memoranda by the Secretary containing the information obtained are printed in Appendix VI. and Appendix VII. We have also visited typical ambulance stations of the Metropolitan Asylums Board and have examined on the spot the working of the motor ambulance service of the City of London.

One of our number during a short visit to America had the opportunity of making some inquiries from police and hospital authorities in New York, Boston and Montreal as to the ambulance services in those cities, and a short account of the results of this inquiry is given in a Memorandum in Appendix VIII. Another member of the Committee, during a visit to Paris, obtained information from Dr. Martin with regard to the ambulance service, and visited two of the four ambulance stations.

I.—SCOPE OF THE REFERENCE.

1. The terms of our reference confine the inquiry to “cases of accident and sudden illness occurring in streets and public places within the Metropolis.” It will be convenient to refer to these in the course of this Report by the short expression “street cases.” “Street cases.”

2. It will be seen throughout this Report that one of the most important branches of this inquiry has reference to the action and duties of the police of London. The Metropolitan Police deal with “street cases” which come under their cognizance throughout the Metropolitan Police District. The Metropolitan Police District may be roughly taken to include a circle of about 15 miles radius from Charing Cross, and contains an area of 699·42 square miles. The Administrative County of London lies within the Metropolitan Police District, and has an area of 117 square miles. Strictly speaking, the area which is within the Metropolitan Police District but is outside the Administrative County of London (including the City of London) is not included in the term “Metropolis.” It seems convenient, however, not to exclude this portion of the Metropolitan Police District from this inquiry, inasmuch as the duties of the police with reference to “street cases” are the same throughout the whole of the Metropolitan Police District. “Street cases” occurring in the City of London—an area of about one square mile—are dealt with by the City of London Police. Area dealt with.

Cases other than
"street cases."

3. In considering the question submitted to us some difficulty arises from the limitation of the scope of our inquiry to cases "occurring in streets and public places." It has been strongly pressed upon us by medical and surgical witnesses of the highest authority that there exists a great need for improvement in the ambulance service of London by the establishment of adequate means of conveyance to hospitals, or elsewhere, of persons lying in their homes or other private places in urgent need of medical or surgical treatment—particularly poor persons who, though not paupers, cannot afford to pay for the services of any ambulance for which a charge is made. While this question plainly lies outside the terms of our reference we have not thought it right to exclude evidence with regard to it, because it is obvious that in considering the improvement of methods of dealing with "street cases" it is highly desirable that any recommendations we may make should not be inconsistent with, but should if possible assist in the establishment of a system which might in some degree meet the need which the witnesses we refer to have emphasized.

We find, moreover, that where a more or less complete system for the rapid transport of urgent medical and surgical cases has been established either in this country or abroad, there is in practice little distinction made between "street cases" and similar cases occurring on enclosed premises. Indeed, the most complete of the ambulance systems provide also for the transport of the large class of cases above referred to. This seems a natural result where, as in the United States, the ambulance system is generally under the control, not of the police, but of the hospital authorities. In New York, for instance, the ambulances are all established and maintained out of hospital funds, either municipal or derived from endowments. The ambulances respond to all calls whether for cases of accident or sickness and whether occurring in the streets or on private premises. In Boston, which, so far as we have been able to ascertain, is the only city in America where the police maintain an ambulance establishment separately from the hospitals, there is a general distinction between "emergency" cases (*i.e.*, cases of accident) and cases of illness, the police as a rule dealing with the former, whether occurring in streets or public places or elsewhere, and the hospitals with the latter, though this distinction is not rigidly observed.

In the City of London no difficulty is made about sending the newly established police motor ambulance to a private factory or house to transport to hospital a case of serious accident or sudden illness, notwithstanding that it occurred on private premises. It appears also that the City ambulance is used occasionally for other cases of illness urgently requiring hospital treatment. The Manchester municipal ambulances are available for cases of emergency—accident or sudden illness—occurring on private premises, equally with "street cases." At Liverpool, though the ambulances are intended primarily for "street cases," they may be used for other emergency cases, subject, as a general rule, to payment in those cases. In the Metropolitan Police District, in a case of real urgency, such for instance as the disastrous accident at Charing Cross Station on December 6th, 1905, or the collapse of two houses in Castle Street East, which occurred on April 6th, 1908, the Metropolitan Police would not stop to inquire, before using their own wheeled litters, whether the sufferers were lying on private premises or in the public thoroughfare. Enough has been said to show that it is difficult to deal with the question of "street cases" without also having some regard to methods applicable to other cases of the character above indicated.

II.—AMBULANCE SERVICES IN LONDON.

It will be convenient at this point to attempt to give some account of the steps which have been taken in recent years in London to establish or improve the means of conveyance to hospitals or infirmaries of persons suffering from serious accidents or illness occurring in streets or public places (*i.e.*, "street cases").

London hospitals.

4. The London hospitals have never felt themselves in a position to establish or maintain an ambulance service generally available for the use of the public. The absence of any such system in London, and the apparent improbability that the London hospitals could or would be willing to undertake so large an addition to their responsibilities, gave rise in the first instance to attempts to supply the need by private benevolence.

London Horse
Ambulance
Service.

5. In 1882 the London Horse Ambulance Service was instituted under the presidency of the late Duke of Cambridge. It was intended that this service should be "at the disposal of persons of every class of society for extreme and difficult cases of illness or accident requiring removal to a hospital or elsewhere on the order of a medical man." This service was to be administered by the hospitals, but objections appear to have been

Henry, 4.

raised on the ground mainly of want of funds applicable to the purpose. It was therefore arranged between the Ambulance Society and the Commissioner of Metropolitan Police that the police should assist as much as possible in promoting the use of the new ambulances. Space was to be found for the ambulances, where possible, at police stations, the ambulances were to be horsed by local contractors under contract with the police, and the charge for horsing on each occasion was made to the patient, except in necessitous cases where it was borne by the police. The ambulances were similar in character and equipment to those then in use in New York. It was intended that 15 stations should be established, but in fact only three ambulances were provided by private donors, and a fourth ambulance, belonging to the 18th Middlesex Rifle Volunteers, was also available when not in use by the corps. The interest in the project seems to have been short lived. The ambulances appear not to have been used for street accidents, but chiefly, if not entirely, for removal of patients from their homes. Henry, 4,128-130.

In process of time these ambulances wore out, and in 1906 the present Commissioner of Police conferred with the Metropolitan Asylums Board as to replacing them. As will be subsequently explained (paragraphs 95-97), the work of removing non-infectious sick from their homes to the hospitals had been to some extent undertaken, though without legal sanction, by the Metropolitan Asylums Board. An arrangement was made between the Board and the Commissioner, by which the ambulances belonging to the Board should be made available for the use of the police, on the same terms as to the public, for the conveyance of urgent cases of injury or illness. A police order was issued on June 12th, 1906, giving instructions as to the use of the ambulances and the duties of the police in relation thereto. Up to the present time, though considerable use has been made of the Board's ambulances for other non-infectious cases, very few "street cases" appear to have been conveyed by these ambulances. Metropolitan Asylums Board. Appendix III. (B) Par. 96.

6. With regard to "street cases," the St. John Ambulance Association claims to have been "the first to cope with the numerous accidents which occur daily in civil life, firstly by giving First Aid instruction to all classes of the community, and secondly, by co-operating with the police." Thirty-five stations have been established where a wheeled litter, a stretcher or both, together with First Aid appliances, are available; at two of these stations members of the staff are in attendance, during the daytime only, but the contents of any station are available for the use of the police or other persons who may know of its existence. A number of ambulances and wheeled litters are available also, at all hours, at the principal station at St. John's Gate, Clerkenwell. The staff of the Association does not take part in the actual transport of street cases, except on special occasions such as the Jubilee or Coronation processions or on Lord Mayor's Day, when they have in readiness ambulances and wheeled litters fully manned and equipped. St. John Ambulance Association. Furley, 1183.

The St. John Ambulance Brigade and the Volunteer Medical Staff Corps acting together perform valuable ambulance services in the streets on special occasions when crowds are gathered, but their services are not available for the every day street casualty work. Osborn, 2440.

7. In 1889, the late Mr. H. L. Bischoffsheim established a service of wheeled litters, placed in various thoroughfares. These and the service of police wheeled litters, which dates from about 1880, will be described presently (*see* paragraph 20). Bischoffsheim wheeled litters. Ryan, 1555.

8. Many of the Boards of Guardians have provided horsed ambulances for the conveyance of patients to and from their infirmaries, workhouses, &c., and certain of these ambulances have been used, though rarely, for non-pauper emergency cases; the occasional use of the Guardians' ambulances in such cases has not been objected to by the Local Government Board, but there is no legal sanction for their use generally. Proposals have been made and discussed, notably by a conference of representatives from the Poor Law Authorities of London in February, 1907, for the regularisation of the use of these ambulances for non-pauper emergency cases (*see* also paragraph 105). Boards of Guardians' ambulances. Lyon, 617, 621-2. Downes, 2912, 2930. Lyon, 652.

9. There are, besides, a number of wheeled litters provided by the dock companies for use on their premises, ambulances provided by some hospitals for the conveyance between hospital and home of hospital patients and by some railway companies for conveyance of invalid travellers arriving at London termini, and some ambulances kept by private owners for use in the way of business mainly for invalid transport. These ambulances are rarely available for conveyance of "street cases," and do not call for more than mention. Other ambulances.

10. In January, 1904, the Metropolitan Street Ambulance Association, an Association with a large and distinguished membership of medical men practising in London and the suburbs, was formed under the presidency of the late Mr. Reginald Harrison, with Dr. Arthur James as secretary, for the purpose of collecting information and bringing before Metropolitan Street Ambulance Association.

Harrison, 421.
ames, 747-9.
Gomme, 1333-5.

official bodies and the public the question of improving the ambulance facilities for "street cases" in London. This body and the St. John Ambulance Association jointly waited on the London County Council, by an influential deputation, for which Sir William Church was spokesman, in May, 1904, to urge the Council to undertake the establishment of an ambulance service, and in June of the same year another influential deputation waited on the Police Committee of the City Corporation, urging the establishment of an improved service for the City, which, as mentioned below, has since been undertaken. There is no doubt that the activities of the Metropolitan Street Ambulance Association and the Metropolitan Counties Branch of the British Medical Association, which worked with it, have largely influenced opinion on this subject.

Action of London
County Council.
Gomme, 1280.

11. In 1901 an offer was made by a private person to the London County Council to provide an electric motor ambulance to be used for the conveyance of persons injured in the streets. The General Purposes Committee, to whom the matter was referred, reported that it was inexpedient to recommend the acceptance of the offer without first considering as to the best means of securing for London the benefits of an ambulance service. A further inquiry was held by the General Purposes Committee and a large amount of valuable information was collected "with reference to ambulance provision existing in London and in provincial and continental cities and towns for dealing with cases of accident or sudden illness in the streets or other public places." The reports containing this information, together with the evidence of witnesses of great experience, some of whom we have had the advantage of hearing, were in 1902 laid before the County Council with a prefatory note by our colleague, Sir William Collins, then Chairman of the Ambulance Sub-Committee of the General Purposes Committee of the London County Council. The General Purposes Committee at first inquired whether an ambulance service could be established in connection with the Fire Brigade. After consultation with the Fire Brigade Committee, this suggestion was abandoned as impracticable, and on July 20th, 1905, the Committee recommended a comprehensive scheme for the establishment of an ambulance service for London to deal with street accidents or cases of illness in the streets occurring within a three-mile radius of Charing Cross. The scheme provided for: (1) The erection and maintenance of a principal ambulance station and seven district stations; (2) motor ambulances worked by electricity; and (3) a method of giving calls by means of street call posts fitted with telephones. The estimated capital cost was £13,000, and the total annual cost, including the cost of staff at £4,400, was £9,600.

Gomme, 1284-
1298.

Gomme, 1299-
1304.

The Finance Committee, while submitting the estimate, considered that a large portion, if not the whole of the £13,000 put down as capital expenditure, ought to be placed under the head of maintenance. They added that in all probability the area to be dealt with would have to be extended, and they also reported—

1304.

There are indications, too, in the report of the General Purposes Committee that the cost of the scheme which they submit, limited as it is in area, may turn out to be considerably greater than the minimum figures which they submit.

On the whole the Finance Committee urged the Council—

1299.

to give serious consideration to the question whether at the present time it is desirable to embark on further expenditure such as would be entailed in the establishment of this proposed new service.

... In recommending the Council to take this course, we do so on purely financial grounds, and without regard to the need for the establishment of such a service or the merits of the particular scheme submitted.

The Council, while generally approving the scheme, resolved—

Gomme, 1306.

that it be referred to the General Purposes Committee to report further upon the questions raised by the Finance Committee.

London County
Council Bill.

12. On December 19th, 1905, the General Purposes Committee again reported, recommending an amended scheme of a limited and experimental character. This Report met with the concurrence of the Finance Committee, and was adopted by the Council, who accordingly inserted in their General Powers Bill of 1906 the following clauses:—

PART IV.—AMBULANCE SERVICE.

23. It shall be lawful for the Council to establish and maintain, or to contribute towards the cost of, or otherwise aid in establishing and maintaining an ambulance service for dealing with cases of accident or illness in the streets or other public places in the County.

24. (1) The Council may for the purposes of this Part of this Act and as and when they may think requisite for carrying such purposes into effect:—

(a) appropriate, hold and use any lands or buildings for the time being vested in them for any purpose for which such lands or buildings are not required;

(b) take on lease, purchase by agreement or otherwise acquire any lands or buildings within the County;

(c) erect, or cause to be erected, and maintain, repair and manage on any lands so appropriated or acquired any buildings suitable for the said purposes ;

(d) adapt, furnish and equip any buildings so appropriated acquired or erected.

(2) The Council may from time to time sell, lease or let any lands or buildings acquired by or vested in them for the purposes of this Part of this Act and not required for such purposes.

(3) The Council may for the purposes of this Part of this Act establish and maintain or contract with any Company or persons for the establishment and maintenance of telegraphic, telephonic or other suitable means of communication between the several buildings used for the purposes of this Part of this Act and between any of such buildings and other parts of the County.

25. (1) For the purposes of this Part of this Act the Council may employ and pay such officers and servants as they may think expedient for the efficient conduct of the service authorised by this Part of this Act.

(2) The Council may from time to time provide and maintain such ambulances and other vehicles to be drawn by hand or by animal or electrical or other mechanical power as they may think requisite for the accommodation and conveyance of persons meeting with accidents or seized with illness in the streets or public places in the County.

The intention of the Council, as stated in the evidence given before the Committee of the House of Commons, was to proceed tentatively at first and to establish two stations, one on the south side of the Thames, near St. Thomas's Hospital, and the other somewhere near Charing Cross. Each was to be equipped with a motor ambulance and the requisite staff, and a telephone call system was to be established. It was estimated that each ambulance would serve a radius of one to two miles around each station. The first year's cost of establishment and maintenance was estimated at £5,200. Of this sum about £2,978 was estimated to be the annual expense of maintenance. The clauses in question passed the House of Commons, but were struck out in the House of Lords. No further proposal has been made by the London County Council.

Gomme, 1310.

13. An important step was taken in 1907 by the Police Committee of the Corporation of the City of London, namely, the establishment, by the advice and under the superintendence of the Commissioner of Police of the City, Captain Nott Bower, of a motor ambulance service. This service was commenced provisionally on 13th May, 1907, with one electric motor ambulance stationed in a temporary building adjacent to St. Bartholomew's Hospital. Eventually the service is to be worked from two stations, one a new building at St. Bartholomew's Hospital, to be rented from the hospital, and the other a new building adjoining the Bishopsgate Police Station, provided by the Police Committee. Two (or possibly three) electric motor ambulances will be used. The ambulance is fully equipped with all appliances likely to be required for First Aid treatment. A system of 52 electric street call boxes has been organised, by means of which any police constable can summon the ambulance. Each constable carries a call box key. On the occurrence of an accident the constable who sees it or is called to the spot, if he finds that the case is one apparently requiring removal to the hospital, opens the nearest box and pulls a handle which gives a call at the head office. Communication can also be made at the call box with the head office by telephone. The one ambulance already in existence serves the needs of the western half of the City of London, taking cases to St. Bartholomew's Hospital. It is contemplated that the second ambulance station will serve the eastern part of the City, working in connection with the London Hospital. Further reference will be made to the working of the ambulance already provided: here it is enough to say that it appears to have been very satisfactory.

Action of City of London.

Nott-Bower, 1045-1050.

Pars. 35, 42, 64, 86.

Appendix XI.

14. As respects ambulance services established in provincial cities and towns we have, as mentioned above, examined on the spot the working of the municipal services at Manchester and Liverpool. These are at present the most extensive services in this country outside London. All possible facilities were freely afforded us by the authorities of these two cities: we found that the services differ from one another in many points of equipment and working generally (see Appendices VI. and VII.), and our examination into them proved most instructive and useful to us in our inquiry. There is, we understand, a service with six horsed ambulances and two hand ambulances at Bristol, established and maintained by voluntary efforts in connection with the St. John Ambulance Association, and there are municipal ambulance services, working with one or two rapid ambulances, with or without a supplementary service of wheeled litters or stretchers, at Birkenhead, Birmingham, Blackburn, Bolton, Bradford (Yorks), Burnley, Gateshead, Huddersfield, Hull, Leeds, Newcastle-upon-Tyne, Oldham, Sheffield, Swansea (with a motor ambulance), and Wolverhampton. In Scotland the St. Andrew's Ambulance Association provides ambulance facilities on a considerable scale at Glasgow and Edinburgh, and also in other towns and cities, and there are municipal ambulance services

Ambulances in provincial cities and towns.

at Aberdeen and Dundee. In Ireland we are informed that a motor ambulance has been established at Belfast. These services appear to be doing very useful work, transporting some thousands of "street cases" per annum: we have not, however, thought it necessary for our purposes to inquire more particularly with regard to their working.

Ambulances in foreign cities.

15. In addition to the information with regard to ambulance services in cities in the United States of America which we have gathered on the spot (see Appendix VIII.), we have received evidence from Dr. Nachtel, Dr. Cox and Mr. Henry Morris and other witnesses with regard to certain foreign ambulance services, notably those established at Boston, Paris and Berlin (Appendix IX.), New York and Vienna.

III.—PRESENT METHODS OF DEALING WITH STREET CASES.

16. The inquiry as to the methods of dealing with "street cases" involves the consideration of two main questions:

- (1) The assistance rendered to the injured or suffering person.
- (2) The method of removal.

These two questions are not altogether capable of separate treatment, as it will be found that different views prevail as to the character of the treatment in the handling of the patient which is required before removal, and that this again depends to a large extent on the arrangements for removal.

The police.

17. The fact that the London hospitals have no ambulance organisation has practically made it incumbent upon the police to make some provision for dealing with "street cases." As in other large cities and towns, this is the necessary outcome of what is essentially a police duty—the regulation of the street traffic. The police constable is the only official who is likely to be present at or near the spot where the casualty occurs. It naturally follows that it is regarded as part of his duty not only to prevent accidents by proper regulation of the traffic, but, so far as lies in his power, to render assistance to individuals who meet with accidents or are seized with sudden illness. In London, as elsewhere, it is only comparatively recently that anything approaching to an organisation for this purpose has been reached. Stretchers carried on men's shoulders were always part of the equipment of the police. These, as may be seen in an illustration in the late Mr. Reginald Harrison's "Ambulances in Civil Life," were occasionally used for the conveyance of street cases to the hospital or infirmary; but by far the most usual method was to place the injured person in some passing conveyance—without much knowledge or skill in the handling and without much regard to adaptation of the means of conveyance to the nature of the injury—and to get him driven as quickly as possible to the hospital.

Ambulances available.

18. Very little use of horsed ambulances has yet been made in London for "street cases," and, outside the City, no use appears to have been made of motor ambulances in those cases. A few "street cases" have been transported by horsed ambulances of the Metropolitan Asylums Board, and possibly some by horsed ambulances belonging to a hospital or railway company. Practically all the cases are transported either by a wheeled litter, a stretcher, or in some ordinary vehicle such as a cab, van or tramcar, or are carried to the hospital.

"Rapid" Ambulances.

19. Hereafter we shall use the term "rapid ambulances" to include horsed and motor ambulances.

Wheeled litters.

Henry, 18, 214.

Henry, 21, 103.

Dent, 3431, 3435, 3464-8.

20. The wheeled litters used by the Metropolitan Police vary somewhat in type. The greater number (at present 276) belong to the police themselves, and are placed 192 at police stations and section houses, and 84 at selected positions in the streets or other public places. The litters placed in shelters in the streets are accessible to anyone, without the intervention of the police. There is occasionally some difficulty in obtaining standing room for these litters. They are not all of a uniform type. Improvements have been made from time to time, and further improvements are under consideration. The cost of the type of litter provided at present, including the splints, bandages and other materials for First Aid, etc., is £17 7s. 6d., and of the shelter for the litter, £18 7s. Approximately the annual cost of keeping the litter and its shelter in good repair is £4 5s., and in addition a small expenditure for washing the litter.

The total number of wheeled litters available for use by the Metropolitan Police has greatly increased in recent years: in 1883 there were only 73 available for the whole Metropolitan Police District, whereas the Commissioner of Police informs us that there are now 399 available.

These 399 litters include, in addition to the 276 which belong to the police themselves, the greater number (48) of the service of about 60 (in May, 1907, 62) wheeled litters of approved pattern established in 1889 and maintained entirely at the expense of the late Mr. H. L. Bischoffsheim. Mr. Thomas Ryan, Secretary of St. Mary's Hospital, who took part in the movement which led up to the establishment of the Bischoffsheim ambulance service and has been Honorary Secretary ever since its establishment, stated that of these 62 wheeled litters 17 are stationed at hospitals, 9 at fire brigade stations, 26 at suitable stations in thoroughfares and 10 elsewhere. Statistics of the approximate number of cases in which these litters have been used in the years 1901-1907 are given in Appendix XII.

Bischoffsheim litters.

Ryan, 1555,

Besides the Bischoffsheim litters there are also included in the number available to the police, 19 hand litters provided by the Borough Councils, 10 by the London County Council, 16 by the St. John Ambulance Association, 4 in the Royal Parks provided by the Board of Works, and 26 others provided by different hospitals, charities, institutions, etc.

21. Important information as to the working of this system by the Metropolitan Police is given in the returns with reference to the year 1906 which were handed in by the Commissioner of Police, and will be found set out in Appendix II. In the first place, these returns indicate the extent of the problem which has to be dealt with. Thus, in 1906, there came under the cognizance of the Metropolitan Police 8,002 cases of persons injured by accidents, and 2,853 cases of sudden illness in the streets, that is, 10,855, or, roughly speaking, 11,000 cases in all, which were taken by some means to a hospital or infirmary. These cases, of course, differed greatly in gravity. The test of gravity applied in the returns is whether or not it was found necessary to detain the patient at the hospital to which he was conveyed, and it appears that 3,234, or 40 per cent. of the cases of accident, and 1,765, or 62 per cent. of the cases of sudden illness were serious enough to be so detained, that is, 4,999, or 46 per cent. in all (Appendix II., Tables (C) and (D)). We see also that 1,536 of the accident cases are returned as "minor injuries" in which the patient was able to walk to the hospital. Of the persons seized with illness 414 were able to walk.

"Street cases" dealt with by the Metropolitan Police.

22. The question naturally arises, what is the total number of "street cases," whether known to the police or not, which require conveyance to hospital or infirmary in the course of a year. This is, of course, a difficult question to answer even approximately, but comparison of the returns furnished to us by the hospitals and given in Appendix I, with the Police Returns just referred to, enables us, we think, to estimate roughly what proportion of cases actually conveyed to hospitals came within the cognizance of the Metropolitan Police in the year 1906. We think that the 8,905 "street cases" known to the Metropolitan Police (see Appendix II., Tables (A) and (B)) to have been conveyed (not walked) to hospital in 1906, formed about 70 per cent. of the total number of "street cases" conveyed, and that the total number conveyed to hospital in that year was accordingly about 13,000. We do not wish to be interpreted as putting this figure forward as more than a rough estimate, but we have as the basis of our estimate (what has never, so far as we know, been available before) the combination of a series of records taken over certain periods, two weeks or a month or longer, at practically all the important hospitals, together with the complete returns from the Metropolitan Police, and we think that the figure 13,000 is probably not very far from the mark. The corresponding figure for the City of London appears to be about 1,500. These figures, it must be pointed out, relate to cases actually conveyed by some means or other in the particular year 1906, and even if accurate as far as they go, would not necessarily represent the number of cases for which conveyance by ambulance was important or for which an ambulance might reasonably have been summoned if a complete ambulance service for "street cases" had been in existence.

Probable total number of "street cases."

23. It appears, moreover, that at the present time the number of accidents occurring in the streets of London is increasing rapidly. This will be seen from the Report of the Commissioner of Metropolitan Police for the year 1907, Table 15, which shows that the number of persons known to the police to have been killed or injured in street accidents, after rising from 5,784 in 1891, fluctuated between 9,200 and 10,540 in the years 1897 to 1904, but in 1905 rose to 11,860, in 1906 to 14,272, and in 1907 to 17,055, an increase of 6,515, or 62 per cent., in the last three years; at the same time an increase in the gravity of the accidents is indicated by the fact that the number of fatal accidents increased from 155 to 283, or 80 per cent., in the three years 1904-7. These figures emphasise the importance and magnitude of the question with which we are dealing.

Recent increase in number of "street cases."

24. As regards the mode of conveyance of these 10,855 cases of accident and sudden illness known to the Metropolitan Police in 1906, in 1,950 cases the patient walked to the hospital: excluding those cases, and considering the remaining 8,905 cases we find that

Methods of conveyance of "street cases." Appendix II.

an ambulance (which means in nearly all cases a wheeled litter) was used in 2,709, or 42 per cent. of the cases of accident, and in 1,716, or 70 per cent. of the cases of illness (Appendix II., Tables (A) and (B)).

Appendix II.

As respects the more serious cases, 4,999 in number, the gravity of which is indicated by the patient having been detained in the hospital for treatment, a large proportion were conveyed by wheeled litter, namely 3,090, or 62 per cent. : of the remaining 1,909 or 38 per cent. which were conveyed otherwise than by wheeled litter 876 were conveyed by cab and 1,033 were either taken by some other conveyance (cart, van, omnibus, etc.) or walked, but the number in which the patient walked is presumably very small (Appendix II., Tables (C) and (D)).

Appendix I.

These figures only relate to cases which came under the cognizance of the Metropolitan Police. It is important, however, to know the means of conveyance of the “ non-police ” cases, which, as mentioned above, we believe to be in the proportion of about 3 to 7 as compared with the police cases. This information we obtain from the Hospital Returns in Appendix I, an analysis of which furnishes the following table of approximate relative proportions of cases conveyed by the several means, (1) wheeled litters, rapid ambulances or stretchers (that is, mainly, wheeled litters), (2) cabs, (3) carts, vans, etc., (4) other means, including omnibus, tramcar, carrying, and so on, distinguishing between cases known to the police and those which were not :—

Class of Cases.	Conveyed by		Conveyed otherwise than by Ambulance, Litter, etc.				
	Ambulance, Litter, etc.		Cab.	Cart or Van.	Other Means.	Total.	
Police Cases .. (= 100)	..	49	..	24	.. 15	.. 12	.. 51
Non-police Cases.. (= 100)	..	18	..	35	.. 19	.. 28	.. 82
All Cases together (= 100)	..	40	..	27	.. 17	.. 16	.. 60

This table shows clearly that there is a marked disparity between the police cases and the non-police cases as respects the frequency with which an ambulance, litter or stretcher is used in preference to a cab or other means of conveyance, about half of the police cases being conveyed by the litter, ambulance or stretcher, as against less than one-fifth of the non-police cases. It is worth remarking in this place that in the strictly wheeled litter cases, excluding the few rapid ambulance and stretcher cases, the disparity is even more striking, a wheeled litter being used in 45 per cent. of the police cases, as against rather less than 10 per cent. of the non-police cases : in other words, about 92 per cent. of the cases in which a litter was used were cases in which the police were concerned. This fact is significant, we think, and points to a need which we shall refer to later, of any available ambulance facilities being brought more before the notice of the public and steps being taken to promote their use by the public without the necessity of the intervention of the police. It will be seen from the last line of the table that taking all cases together, police and non-police, an ambulance, wheeled litter or stretcher appears to be used in considerably less than half, about 40 per cent., of the “ street cases ” which are conveyed to hospitals. The very important question as to how far this extensive use of means of conveyance other than the wheeled litters is injurious and prejudicial to the condition of the patients, and how far the wheeled litter itself satisfies the requirements of the case we also deal with later.

Metropolitan
Police Orders and
Instructions.

25. In the Metropolitan Police Orders—which contain the general instructions for the guidance of the police in the discharge of their ordinary duties—the following paragraphs occurred under the head of “ Accidents,” the first of which was in force from 1858, and the second from 1891 till the revision of the Orders in February, 1908 :—

In all cases of accident, or illness in the streets, the police are to render all the assistance in their power by sending for medical aid (in the interval loosening the necktie and collar, raising the head, by which breathing is made easier), and, where necessary, to the police station for the wheeled ambulance or stretcher, to remove the sufferers to the nearest hospital, unless there be some special reason for taking them to another hospital. Where necessary, expenses for cab-hire will be allowed.

Appendix III.,
Order (C), pars.
1 and 2.

It is to be thoroughly understood that in all cases in which persons come into the hands of police, whether as prisoners or in any other manner, and there is any appearance of their being ill, or suffering from injury, or it is known or believed that they have hurt themselves by falling down, while drunk or otherwise, the divisional or other surgeon is to be invariably sent for to see them, although they make no complaint. The Commissioner trusts that there will be no neglect in carrying out this order. He desires that a liberal interpretation may be placed on all orders and regulations with respect to the attendance of divisional surgeons in cases of illness, accident, injury, or drunkenness, and even of suspected injury.

The revised Orders of February 4th, 1908, are set out in Appendix IV. Important paragraphs from these Orders relating to the duty of the police in dealing with injured persons are the following :—

When persons come into the hands of police, whether as prisoners or otherwise, and there is any indication or reason to suspect that they may be ill or suffering from injury, the divisional surgeon, or in urgent cases the nearest doctor, is invariably to be called to examine them, although the persons themselves may make no request for medical attendance.

In dealing with persons found ill or injured in the streets, the action of police must be guided to some extent by circumstances. Obviously in serious cases the first consideration is to obtain medical aid for the sufferer; in inner London, therefore, where an ambulance is close at hand and hospitals accessible, prompt removal to the latter by ambulance is the safest course. The pocket directory contains a list of ambulance litters (including those belonging to private persons, local authorities and others) which are available to police in cases of accidents, etc.

In the outer districts conditions are different, and it may very well be desirable to summon the nearest medical man and to await his arrival before removing the patient.

In either case, after taking prompt measures to get an ambulance and when necessary a doctor, police should do all that lies in their power to afford relief and assistance in accordance with the principles of First Aid instruction, and to prevent a crowd gathering round the injured person. Although it is generally desirable that an ambulance should be used for the removal of a sick or injured person, it may on occasions be expedient to make use of a cab or other vehicle if the patient's condition appears to justify such a course. In cases of insensibility, or of any injury to the head, or internal injury, or of fracture of lower limbs, or where any such injury is suspected, a cab is a very unsuitable means of transport.

26. Every Metropolitan Police Constable carries with him two little books called "Duty Hints" and "Pocket Directory," the former of which contains under the heads "Accidents to Persons in Streets" and "Illness in Streets," brief summarised instructions as follows :—

ACCIDENTS TO PERSONS IN STREETS.

- Obtain medical aid (Divisional Surgeon if possible).
- Render First Aid.
- Remove injured person to hospital or home, when practicable, on ambulance.
- Give officer's name, number and station to hospital authorities.
- Acquaint friends by police telegraph, telephone, or personally.
- Take full particulars of occurrence, including name and address of person causing, and witnesses, also their statements.
- If witnessed, give number to injured person.
- If fatal, take person causing to station.
- Cab may be hired if necessary.

ILLNESS IN STREETS.

- Convey to hospital or home as rapidly as possible (as a rule by ambulance if obtainable).
- Employ cab if necessary.
- See *Accidents*.

27. The Pocket Directory gives brief instructions for First Aid treatment of wounds (bleeding from arteries and bleeding from veins), broken bones, cases of apoplexy, fits, burns, drowning, sunstroke, etc., and gives detailed particulars as to the emetics or other treatment which may be given in cases of poisoning by various substances. The Directory also contains, *inter alia*, the following information :—

- List (with addresses) of hospitals in each police division to which cases of injury or serious illness in the streets may be taken by police—86 in number altogether.
- List of infirmaries or other public institutions (other than hospitals) in each division to which urgent cases of injury or serious illness in the streets may be taken direct when the circumstances warrant.
- List of situations of ambulance litters (other than the 188 litters at police stations) available in each division for use by police in cases of injury or illness in the streets.
- Particulars as to the availability of the Metropolitan Asylums Board ambulances for police cases.

28. Mr. Clinton Dent, who has been Chief Surgeon of the Metropolitan Police since July, 1904, and was on the surgical staff of St. George's Hospital for over 27 years, described to us the course of instruction in First Aid which every police recruit has to go through before being definitely enrolled in the force. The instruction is usually given by one of the Divisional Surgeons who has a long experience in the work, under the general superintendence of the Chief Surgeon. It consists of a course of lectures and practical demonstration, special attention being paid to stretcher drill and moving of patients. The Chief Surgeon frequently goes down on the last day of the course and personally tests the knowledge of the recruits. This instruction is preparatory to the constable's entering on his duties, and independent of the more advanced London County Council or St. John Ambulance Association classes, which officers who have joined the force are encouraged, but not compelled, to attend; it is part of the instruction which the recruits receive in order to fit them for the elementary duties of police officers. The Chief Surgeon told us that he had been most favourably impressed by the keenness and intelligence displayed by the recruits generally. He said :

I doubt if there is any part of their duties that they pay more attention to or pick up more quickly.

Appendix IV.

Par. 118.

"Pocket Directory."

Par. 118.

First Aid instruction of Metropolitan Police.

Par. 117.

Dent, 3387-3392.

3392.

. . . All the recruits are in one large class and there is a sort of competition between them ; each wants to impress the sergeant-instructor, the chief inspector, the divisional surgeon-instructor or myself, if I am there, with his ability. I should like to cite just one example very briefly. The last time I went down at the concluding day of the course, when they are put through their facings, I picked out a man at haphazard and I cited an imaginary case to which he had been called. One of the recruits, acting as a model, was lying on the floor wrapped in a blanket and I said, " Now supposing this man had accidentally stabbed himself with a pen-knife here—and I pointed to the knee region—what would you do in such a case ? " The answer was that he would regard it as a serious injury. I said, " Why ? " The answer was that the knife might have gone between the bones of the knee ; and I said : " Why should this be serious ? " Well, he said, he thought it was serious. And this was a very good answer. The point was, of course, that the man might have got a wound in the knee joint, which appears to be a somewhat trivial affair but is a most serious thing, more serious than a fractured thigh. That was a very good answer that he gave, and it was on a point that I do not think is even alluded to in any of the ordinary courses of First Aid. Further, the man said that he would put the limb up on a back splint and convey the man to hospital.

Attendance of
Police at
advanced First
Aid classes.

29. The revised Police Orders of February 4th, 1908, contain the following paragraphs relating to ambulance classes formed under the auspices of the St. John Ambulance Association and of the London County Council :—

Appendix IV.

51. Ambulance classes for the instruction of police in the method of rendering First Aid to injured persons are formed from time to time under the auspices of the Society of St. John of Jerusalem, the London County Council (Education Department), &c.

52. Notice of the formation of the classes, for instruction, will be published in Police Orders. The fees (if any) are to be paid by Superintendents and charged on Form 54, to which the receipts must be attached. " Time off " will be granted to police attending, and travelling expenses allowed where necessary.

It will be observed that the Metropolitan Police are encouraged but not compelled to attend these classes.

Cole, 252-3.
Olive, 370-1.

Superintendent Cole, of the E (Holborn) Division of Metropolitan Police, told us that out of 582 men, being the strength of the division, 472 held St. John Ambulance Association certificates (408 for the first course, 59 for the second, and 5 held the medallion which is given after three years' successful training, and is regarded as a badge of permanent qualification) ; Superintendent Olive (X Division) stated that 440 out of the 882 officers of all ranks in his division held certificates. Out of the total force of 18,112 men in the Metropolitan Police Force on 31st December, 1908, 13,427 held First Aid certificates after a course of training additional to that provided by the Police authorities.

Dent, 3392.

30. The Chief Surgeon thinks that, as the arrangements for the instruction of the police stand at present, it would be desirable to take further measures to ensure that more police should attend the advanced courses of the County Council or of the St. John Ambulance Association. At the same time he, together with many other witnesses of experience, consider that " this advanced instruction may easily be carried too far, and that it is often carried too far for practical purposes as regards the police." He would modify the syllabus at present employed by the instructors under the London County Council and St. John Ambulance Association in the direction of making it more practical, though he does not consider it other than very good. He would give more attention than is done at present to the lifting and moving of the patient and transport generally. Mr. Dent also said that, personally, he would be " glad to see the whole instruction of police in First Aid entirely in our own hands," and explained that his reasons for holding this view were twofold, namely that he thought more men would then take these more advanced courses and that the syllabus would be more adaptable to the particular needs of police instruction.

Dent, 3565.

Dent, 3590-2.
Henry, 3956-9.

First Aid
instruction of
City Police.
Nott-Bower.
1163-1170.

31. As regards the City of London Police, First Aid instruction is regularly given by Dr. Gordon Brown, the Police Surgeon. As in the Metropolitan Police all recruits are put through a course on joining. In the City, it is also obligatory upon the police to obtain the certificate of the St. John Ambulance Association. Captain Nott-Bower says :

We put all our recruits through a course of it on joining, and we have now brought the thing up to date by having all our men, up to the rank of inspector, even the older men, put through the course. . . . Three hours once a week are given to it. . . . There are five classes that they have to attend, and then they are examined for a certificate. If a man does not obtain his certificate he is attached to another class, and he has to attend it in his own time. . . . We have had cases where men have had to go through two courses of instruction, but I do not think we have had any case where a man has failed entirely. . . . We put every man through now up to the medallion ; that is the young men, the recruits. . . . They are allowed time for that under the same conditions.

Par. 53.

Out of the City Police force a certain number of constables are now selected for special service with the newly established motor ambulance.

First Aid in other
Police forces.
Appendix VI.
Appendix VII.

32. We find that other police forces also have made considerable efforts in the direction of First Aid instruction. This is the case both at Liverpool and at Manchester, where

the system is similar to that of the City of London as regards First Aid training, all members of these forces, save a few of the older men who joined under the earlier system, being expected to qualify in the examinations of the St. John Ambulance Association. At Boston in the United States instruction in First Aid is part of police discipline, and, as in the case of the Metropolitan Police, each constable is furnished with a pocket-book containing directions as to the application of First Aid in the principal classes of cases of probable occurrence.

33. We have received a considerable amount of evidence bearing on the question as to the efficiency with which the police discharge the duty which necessarily falls upon them of rendering assistance in "street cases." This evidence is a good deal affected by the divergent views taken by the witnesses as to what sort of treatment is or is not reasonably practicable or desirable in a serious case before the sufferer can be brought to the hospital. Everyone would agree that the main object is that the case should be brought to the hospital as safely and as quickly as possible. But there is room for a wide divergence of opinion as to what is involved in the term "safely."

Efficiency of
Police in
First Aid.

34. The evidence given before us by surgeons and doctors engaged in hospital work, who have had considerable experience in seeing patients brought in to the hospital and many of whom have assisted in the preparation of the very useful returns printed in Appendix I., has a very important bearing on the questions above stated.

Evidence of
hospital surgeons.

35. Mr. Anthony Bowlby, one of the surgeons to St. Bartholomew's Hospital, speaking of the way in which patients are treated by the police before being brought to the hospital, stated that he thinks patients have been "immensely better taken care of for the last five or ten years than they ever used to be fifteen or twenty years ago." Speaking of cases of persons with fractured legs being brought to the hospital in cabs he says that this sometimes occurred before the establishment of the new City Ambulance "though in much fewer numbers of late years than in past years. There has been much more care in bringing the patient of late years than in former years." In reply to the question whether there had been considerable improvement in the mode in which patients reached St. Bartholomew's Hospital since the introduction of the new motor ambulance, Mr. Bowlby said, "Yes, certainly. They are brought much more comfortably, and suffer less pain."

Mr. Bowlby
(St. Bartholomew's).
1498

1541.

1538.

36. Mr. Batten, speaking of his experience of six months as Casualty House Surgeon at St. Mary's Hospital from January 1st to July 1st, 1907, told us that in that period he had to deal with about 500 street accidents, and of these 350 were brought in by the police, of which 97 were detained in hospital. Mr. Batten stated:—

Mr. Batten
(St. Mary's).

In the cases brought by the police, the First Aid is generally efficient, and the selection of cases which were brought in ambulances was good. . . . What they ought to bring with an ambulance they generally brought with an ambulance.

1812.
1813.

Mr. Batten's experience as to the nature and limits of First Aid treatment may also be quoted:—

1814. I have never seen a case where a doctor was necessary with the ambulance. In fact, if I might elaborate that a little more, I think probably it would do more harm than good, because I think that when a case is seen it must necessarily be seen first by someone—generally a police constable—who renders First Aid, according to his ability, and if you have a skilled attendant, student or medical man coming with the ambulance, it necessarily means three examinations for that poor patient, when, I think, two are quite sufficient; and if the hospital could be brought to the patient one would be all that is necessary, but I do not think that is practicable. I remember that the Civil Surgeons who went out to the South African War told me that when they put on the ordinary field dressing at the Front, and did not trouble to wash the wound or do anything else before they sent the patients down to the Base, those were the cases which did not go septic, but that those which they washed with small quantities of antiseptic solutions went wrong. The probability was that they washed more into the wound than they washed out of it. In the same way, perhaps, when you meet with a case in the street, if it is simply wrapped up to prevent anything more getting into it, and is taken to hospital where full treatment can be carried out, I think that is the ideal thing to do. Of course, the sooner a patient gets to a hospital the better; but it is far better to bring him safely than to bring him quickly.

1815. What I particularly want to get is your own experience as to the condition of the patients whom you actually saw yourself?—Generally they were well brought, and I do not think that any of them got septic from the ambulance. Now and then cases would come into the hospital not so well brought, some by the police, but generally by private individuals.

37. Out of the 40 cases admitted to St. Mary's Hospital, of which particulars appear in Appendix I., there were five in which exception was taken to the mode of conveyance that was used—three cases of fracture of a bone of the leg, one of which was brought by the police in a cab, a case of dangerous injury to the back brought by the police in a cab, and a case of severe cut throat brought by the police in a wheeled litter—where it

Appendix I.

was considered that transport by more rapid means, if available, would have been preferable.

Mr. Curl
(Poplar and
Tottenham)
2032-5.
2044.
2073-7.
Appendix I.
2092.

38. Mr. Curl, whose experience was obtained as House Surgeon at Poplar Hospital and at the Prince of Wales's General Hospital, Tottenham, considers that the First Aid which patients receive is generally "very fair," the tendency being to do too much rather than too little. He does not think he "has ever seen a case where ordinary First Aid, if it had been rendered, would not have been all that was required." The rendering of First Aid by the police he considers "fairly efficient." He referred, however, to two cases mentioned in the returns from the Prince of Wales's General Hospital as having been brought by the police by very unsuitable means of conveyance, namely, a case of fractured base of skull which was brought in a cart, and a case of fractured pelvis brought in a cab, and to a case of wrongly administered First Aid by the Police. Mr. Curl also mentioned a complaint made by many patients who had been conveyed on a wheeled litter, respecting the hood which is pulled over them: "The patients complain dreadfully of the thing pulled over them: they say it is very stuffy and very uncomfortable."

Mr. Dean
(St. Thomas's).
2112-7.

39. Mr. Dean, Resident Assistant Physician at St. Thomas's Hospital, does not think that medical cases could be advantageously treated by First Aid by sending out a trained assistant or a medical student to accompany the ambulance. He thinks that in medical cases very broad rules might be laid down indicating to the police the class of cases in which it would be proper to have the patient conveyed to the hospital in a litter or ambulance. He emphasized the importance of very careful and expeditious handling and conveyance to hospital in cases of sudden illness occurring in the streets.

Mr. Woods
(London).
2180.

40. Mr. Woods, one of the Receiving Room Officers at the London Hospital, who had dealt with the patients after they had been admitted to the receiving room, during a period of six months, was of opinion:—

I should say that the First Aid was efficiently rendered in all cases which required it. As a matter of fact, my experience is that First Aid with regard to the cases which are brought up to the receiving room is very rarely required. I have been thinking over it, and I can only think of cases of fracture and hæmorrhage, and possibly poisoning, in which it would be required—I mean First Aid by the police. I think the best thing that can be done for fractures is simply to fix the limb that is fractured—not to remove any of the clothing.

2196.

I have never, for instance, known a case myself of a fracture which had begun as simple being made compound by the mode of conveyance. It is possible that it may have occurred, of course.

2219.

Mr. Woods, while admitting that some discretion must be left to the police as to the mode in which the patient is to be brought to the hospital, would lay it down as a general rule that if a patient was not fit to walk to the hospital he should be brought lying down.

Appendix I.

41. Out of the 70 cases dealt with in the Return from the London Hospital printed in Appendix I., 9 were noted as having been possibly prejudiced by the mode of conveyance (in one case a journey of 45 minutes by horsed ambulance), there were 15 cases in which it was considered that conveyance by wheeled litter or rapid ambulance would have been more suitable, and in 9 of these cases a rapid ambulance would have been preferable.

Mr. McDonagh
(St. Bartholomew's).
2303.

42. Mr. McDonagh, House Surgeon at St. Bartholomew's Hospital, gave important evidence, especially as to the working of the City Motor Ambulance, which began its operations on May 13th, 1907, and had been at work for a few weeks when he gave evidence. He says that, so far, its work has been excellent.

2305.

It is much quicker, even in busy times, than hand-litters, and in the case of a fracture of the leg or head injuries it is most useful, because no head injury, however slight, is to be thought nothing of, as many of the slightest cases turn out to be the worst afterwards. As regards skilled attendants in ambulances, I do not consider that necessary.

[In the City ambulance] there is the driver, the man in attendance in the ambulance, and then the policeman whose case it is, because he has to come to the hospital. When he gets inside the ambulance he has nothing further to do with the case until it is admitted in the hospital, when he has to tell me exactly what the injury was, and report; whereas, if any First Aid is done it is done by the man in the ambulance.

Speaking of his experience of the City Police, by whom most of the accident cases admitted to St. Bartholomew's are brought, Mr. McDonagh adds:—

2309.

I have never seen a case in which First Aid has been wrongly applied by the police, or any neglect on the part of the police, but I have heard of some.

Appendix I.

43. Out of the 80 cases which were brought to this Hospital during a fortnight (prior to the introduction of the motor ambulance service) and given in the Returns in Appendix I., 6 cases conveyed by cab or van were considered to have been prejudiced by the mode of conveyance adopted, and the comments on 11 other cases indicated that conveyance by wheeled litter or by rapid ambulance would have been preferable.

44. Mr. Osborn, who has been for 27 years Chief Surgeon of the Metropolitan Corps of the St. John Ambulance Brigade, considers that the present knowledge of First Aid possessed by the police is "excellent," but he thinks it wants keeping up, and that the men should be re-examined every year. Mr. Osborn is not prepared to condemn the wheeled litter; he thinks it a "very nice machine, and very useful," though he would favour the use of motor ambulances in the West of London. Assuming, however, that a rapid ambulance (horsed or motor) is available, he thinks that it might well be left to the discretion of the police constable whether or not to summon it in preference to the wheeled litter, the rapid ambulance being used for the more serious cases.

Mr. Osborn
(St. John
Ambulance
Association).
2449.
2470.
2488.
2491.
2496-9.

45. Mr. Higgs, Acting Resident Medical Officer of St. George's Hospital, told us that he had not observed in the last five or six years any improvement in the way in which cases were brought to the hospital. He feels satisfied that improvements could be made, and thinks that it should be in the direction of having rapid ambulances. It will be observed in the returns from this hospital, given in Appendix I., that several cases are noted in which it was considered desirable that the patient should have been conveyed on a rapid ambulance instead of a wheeled litter. With regard to First Aid, Mr. Higgs thinks that when it is rendered it is rendered satisfactorily as a rule, but that in many cases the patient is put at once into a cab and despatched to the hospital with too great haste.

Mr. Higgs
(St. George's).
2637.
2640.

Of course, in some cases the important thing is speed, and little else is required; but in other cases it would be better if the patient were left lying in the road, for instance, in preference to being brought in a cab, until you have a litter or ambulance there ready. I think sometimes the crowd are rather tempted to hustle the policeman to put the case into a cab and get rid of it.

2657.

This statement corroborates other evidence which we have received to the effect that the difficulties of a constable in dealing with a case in the London streets are sometimes greatly increased by the attitude of the crowd.

Henry, 68, 3961.
Par. 83.

Mr. Higgs sums up his views thus:—

I do not think that the policeman can manage everything. I think that he is very good so far as he goes, but I do not think he is able to do enough. What the police do they do fairly satisfactorily—it is not their fault that they do not do more.

2688.

He considers it desirable, however, to limit narrowly the scope of the First Aid treatment which police should be trusted to apply. Mr. Higgs also referred to three cases brought to St. George's Hospital by the Metropolitan Police which had been prejudiced by the mode of conveyance adopted or by lack of First Aid.

2660-4, 2740-2.
2757.
2768-2772.
2720-8.

46. During a period of a little over two months dealt with in the Return from St. George's Hospital in Appendix I., Table (B), eight cases are noted as having been possibly prejudiced by the mode of conveyance, and six others in which transport by litter or rapid ambulance would have been more suitable.

Appendix I.

47. The evidence of Mr. A. Carnarvon Brown, who has been Junior and Senior House Surgeon and also Senior House Physician at the Great Northern Central Hospital, is of importance, as the Great Northern Hospital serves an area comprising the northern part of the Metropolis, including Islington, Holloway and Highgate, and the district further north, outside the Metropolis but within the Metropolitan Police District and extending for about seven miles from the hospital. Some of the "street cases," therefore, dealt with at the hospital have been brought from a considerable distance.

Mr. Brown
(Great Northern
Central).

Mr. Brown dwells on the difficulty of distinguishing between cases which are dealt with by the police and by private persons. The general distinction no doubt prevails here as elsewhere that "street cases" are dealt with by the police, but according to Mr. Brown "in a great many of our cases the police are called into the premises and houses to take cases." Mr. Brown also draws attention to the large number of cases not brought by the police. This is of course more likely to be the case in the suburban districts where the police constable is less likely to be on the spot or within call when an accident occurs than in the more crowded streets of the "accident area."

3008-3010.

Owing to the long distances which patients have to be brought, Mr. Brown emphasises the importance of a better organised system of rapid ambulance conveyance in the district served by the Great Northern Hospital. The hospital possesses an ambulance given by a private association; but inasmuch as payment has to be made beforehand, and there appears to be no satisfactory arrangement by which the ambulance can be turned out quickly, or at all at night, it is of very little use for bringing casualty cases either from the streets or from private places to the hospital, and of no use at all for poor people.

3039-3040.
3060-1.
3071.
3063-6.

48. Mr. J. E. Adams, Resident Assistant Surgeon at St. Thomas's Hospital, and previously House Surgeon and Surgical Registrar, would have the police more highly trained

Mr. Adams
(St. Thomas's).

3370. in First Aid than they are now—he would have them more skilled in ascertaining the nature of the mischief from which the patient is suffering, and says :—

3357. As a rule I think that their work is very well done, but they make serious mistakes sometimes, and I think that they do not do as much as they might; in fact, I think that they usually exhibit a desire to get the patient up to the hospital as quickly as possible without doing anything further. I do not think that they often arrive at a satisfactory conclusion as to what is the matter with the patient.

3363. Mr. Adams apparently takes a somewhat wider view of the extent to which First Aid should be applied, whether by the policeman or by other persons, than is taken by most other witnesses. Mr. Adams is strongly in favour of the use of a rapid ambulance. He states, however, in reply to a question whether the use of the wheeled litter had in his experience been prejudicial to the patients conveyed by it. “so far as I have had an opportunity of observing, I do not think that the ambulance has prejudiced their treatment in any way.”

Dr. Ridewood (Poplar). 49. Dr. Ridewood, who has been for 18 months House Surgeon at Poplar Hospital, and has had special opportunity of observing the ambulance service of the London Docks, dwells on the utility of the hand ambulances for the numerous accidents which occur in the docks, where horsed or motor ambulances would be useless. The hand ambulances are, he says, extremely efficient in the Dock cases, where the distances to the hospital are short. He thinks those used by the Dock Company are rather superior to the police ambulances. With regard to the administration of First Aid by the Metropolitan Police Dr. Ridewood gives his experience thus :

3629. I have found that they have practically always rendered First Aid very efficiently. They certainly know how to put on splints properly, and they know how to stop bleeding, and they always put some covering, a clean handkerchief or something, over the wound in any injury of that sort, and they also realise in what cases to send for an ambulance, and what cases to send up in a van or other means of conveyance—a carriage or cart. They use their discretion very well.

Appendix I. 50. It appears from the Return in Appendix I., Table (C), that out of 12 cases of fractured bone of the thigh or leg admitted to the Poplar Hospital in the period covered by the Return, only three were conveyed by wheeled litters and none by rapid ambulance.

Morris, 3117. 3183. 51. Mr. Henry Morris quoted a statement of an experienced casualty surgical officer at the Middlesex Hospital that the impression made upon the present and several of the past house surgeons at that hospital whom he had consulted as to the condition of the cases which came into their hands was that “there is hardly ever any attempt at First Aid treatment, but the patients seem to be moved carefully by the police.”

Opinions of Divisional Police Surgeons. 52. In Appendix XV. will be found a summary of the answers received from 133 Divisional Surgeons to various questions asked in a circular by the Chief Surgeon, Mr. Clinton Dent, as to the efficiency of the Metropolitan Police in dealing with “street cases.” In answer to the question whether the Metropolitan Police generally show themselves intelligent and efficient in rendering First Aid 124 Divisional Surgeons answered in the affirmative, some in a very decided way. The other 9 qualified their answers as stated in the Appendix.

The Divisional Surgeons were also asked. “Is it your experience that police show generally good judgment in—

(a) Choice of means of transport to nearest surgery or hospital.

(b) Deciding when to summon a medical man.

To (a) 126 Divisional Surgeons replied in the affirmative, while 7 qualify their answers as stated in the Appendix.

Par. 118 To (b) 131 replied in the affirmative, 2 in the negative; 10 of those, however, who replied in the affirmative qualified their answers, some being of opinion that more frequent recourse ought to be had to local medical aid, and one or two considering that the tendency of the instructions to the police is to give rather undue prominence to the duty of summoning local medical aid. We shall return to this point when we come to consider the advisability of amending the instructions to the police.

53. Sir William Church, late President of the Royal College of Physicians, speaking of the recent experience at St. Bartholomew's Hospital of the working of the City of London Motor Ambulance service, says with regard to the First Aid rendered by the City of London and the Metropolitan Police :—

3257. I made inquiries, so far as I could, from the officers of the hospital on those points, and they tell me that the First Aid rendered by the City Police is excellent, and the First Aid rendered by the Metropolitan Police is not so good as that of the City Police, but it is not bad. I asked whether they could give me instances in which the First Aid rendered might have been deleterious or hurtful, and they said that they

had had such cases, which I do not think you could prevent. The worst case was one in which a large varicose vein had burst, and the First Aid policeman applied a tourniquet, but he did not apply the tourniquet sufficiently powerfully to stop the arterial blood, though he did stop the venous blood. . . . 3259.
That was the only case in which I could find at the hospital that they thought it would have been better perhaps if First Aid had not been rendered. I do not know that it did any real harm.

54. We may also mention that 34 out of 38 of the "Town" Divisional Surgeons and Appendix XV.
76 out of 95 of the "Country" Divisional Surgeons whose views are summarised in Appendix XV., considered that it would be advantageous to institute a system of rapid ambulances. In reply to a further question addressed to those Divisional Surgeons who were in favour of the introduction of rapid ambulances as to whether the wheeled litters should be abolished, 11 expressed themselves in favour of abolition of the wheeled litters while 91 considered that they should not be abolished but supplemented by rapid ambulances.

55. The hospital returns printed in Appendix I. have furnished us with very valuable information as to the working of the present methods. We take this opportunity of expressing our great obligation to those who undertook at our request the laborious task of furnishing the particulars which appear in these returns. These returns relate to those classes of cases which are covered by the terms of our reference, that is to say, "street cases," whether dealt with by the police or not, but include only cases in which the patient did not walk but was conveyed by some means to the hospital. They show the opinions of representatives from the medical and surgical staff of the casualty departments of most of the chief London hospitals, centrally situated and suburban, respecting the treatment of those cases conveyed to the several hospitals for a fortnight, a month, or some other such period, and present, we think, notwithstanding some obvious limitations to which any returns of the kind cannot but be subject, a valuable survey of the general experience and trend of opinion of the hospital staffs who are dealing in the ordinary course of their work with these cases. The questions dealt with in the returns include, besides the information as to the mode of conveyance used, an expression of opinion as to the suitability of the mode of conveyance or whether the condition of the patient was prejudiced, as to the efficiency of the First Aid (if any) which was rendered, and as to the need for expert medical or surgical attention to the patient on the journey to hospital (see the reprint of the form of inquiry given in Table (A) of Appendix I.).

Efficiency of the
present Methods
of Removal.

The various modes in which "street cases" are conveyed to hospital have already been referred to in detail (see above paragraph 24). With regard to the question as to the *efficiency* of the present modes of conveyance an analysis of the hospital returns gives the following striking results.

Analysis of the
Returns.

56. Out of the 427 cases occurring in the Metropolitan Police District which are detailed in the returns the use of the particular mode of conveyance that was adopted is considered to have prejudiced the patient's condition in 57 cases, and in 37 other cases words are used indicating that though it could not be said that the patient had suffered harm the mode of conveyance was one which should not have been used; altogether, therefore, we may say that in nearly a quarter of the total number of cases definite fault was found with the mode of conveyance used.

Cases prejudiced.

57. Included, however, in these 427 cases are many in which the injury suffered by the patient was of a minor character, and in which the necessity of a particular mode of conveyance, the preservation of a recumbent position and so forth, was likely to be of less importance. The cases of a more serious character, including the following classes: poisoning; wounds and hæmorrhage, etc., described as severe cases; head injuries and shock, etc., described as severe; fractures of collar-bone, ribs, pelvis and other body or abdominal injuries described as severe; and fractures of lower limb bones—thigh, leg, knee-cap, ankle—numbered, we find, 173: the mode of conveyance is recorded as having actually prejudiced the condition of the patient in 47, that is to say in more than a quarter of these cases, and no less than 74, that is to say between one-third and one-half of the cases, to have been calculated to be prejudicial, whether or not actual harm could be stated to have resulted. Leaving, for the moment, the question whether or not the mode of conveyance is stated to have prejudiced the condition of the patient, and considering only what the mode of conveyance was, we are able to take a rather wider survey, including 273 cases in which no opinion was expressed, and covering 700 cases in all. That the present condition of things is of some seriousness will also be seen from this consideration alone that out of this series of cases, representing, as we estimate, only about one-twentieth of the cases which occur in the course of a single year in the Metropolitan Police District, there were (1) 22 cases in which persons with a broken thigh, leg or ankle were conveyed to hospital in a cab, 19 in a cart or van, and 11 by other

means such as by tramcar, 'bus or carrying, and (2) 86 "serious" cases (including the same kinds of cases as are named as serious just above) conveyed to hospital in a cab, motor car or such vehicle, 46 in a cart, van, or barrow, and 22 by some other ordinary vehicle, not an ambulance or wheeled litter.

Cabs.

58. These returns give a good deal of support to the grave indictment of the cab as a means of conveyance of injured people, which was made by witnesses who appeared before us. In two-thirds of the serious cases in which a cab was used it is stated to have been calculated to prejudice the condition of the patient, and in over one-third of the cases actual harm was considered to have been done. The corresponding proportions in the case of the other ordinary vehicles—carts, vans, tramcars, etc.—were about one-half and one-third respectively.

Wheeled litters.

Par. 24.

59. We have already referred to the information furnished by the returns as to the extent to which use is made of wheeled litters, rapid ambulances (which, however, were very rarely used) and stretchers, by the police and the public respectively. Injury or danger from the use of wheeled litters was suggested in comparatively few cases—only 16 out of the 168 cases in which they were used, and in only 12 out of the 68 serious cases. In most of these cases it is specifically stated that it was the *slowness* of transit of the litter or stretcher in a case of extreme urgency that occasioned the detriment or risk of detriment to the condition of the patient, for example, in three cases of poisoning and three cases of dangerous hæmorrhage. In this connection it may be noted that in one of the few cases in which a horsed ambulance was used complaint was made as to the period (some 45 minutes which was occupied before the patient, whose injury is described as "fractured ribs, dangerous," arrived at the hospital. The distances which often have to be traversed in bringing patients from scattered and outlying districts to a hospital present one of the many difficulties in the organisation of an ambulance service for London.

As respects the suitability of the wheeled litter we have further information from these returns, for we find that the litter is named about twice as frequently as the rapid ambulance in reply to the question what mode of conveyance would have met the requirements in those cases where the actual mode of conveyance by cab, cart or other such vehicle was considered unsuitable or prejudicial. This, of course, must not be taken as meaning that the litter would have been preferred in these cases to the rapid ambulance, but is, we think, worthy of consideration as against the view urged by some witnesses that the wheeled litter is fit only to be entirely superseded by the rapid ambulance.

Conclusion from the Returns.

60. The results of the above analysis appear to point strongly to the conclusion that much too frequent recourse is had to the cab or other inappropriate vehicle in severe cases, and that it is very desirable that the use of some type of special vehicle should be largely extended.

IV.—SUGGESTIONS FOR ADOPTION OF IMPROVED METHODS OF CONVEYANCE.

Rapid ambulances.

We have now to consider the suggestions which have been made to us for (1) improvement in the character and equipment of the vehicles for the transport of "street cases" and (2) the organisation of a system calculated to lead to a more general use of vehicles specially adapted for this purpose.

(1) CHARACTER AND EQUIPMENT OF VEHICLE.

Advantages claimed for rapid ambulances.

61. With very few exceptions the witnesses called before us are agreed that where it is necessary or desirable that a patient should be removed to hospital in a recumbent position a rapid (motor or horsed) ambulance is for various reasons preferable to any other mode of conveyance.

James, 846-850.
Nott-Bower,
1064-1087.
Collie, 1724.

The principal advantages claimed for the rapid (horsed or motor) ambulance are :—

- (1) That the removal of the case from the place of the accident or seizure is more speedy.
- (2) That the use of properly equipped ambulances enables skilled assistance to be brought to the aid of the sufferer, and that the necessary treatment can be applied by a skilled attendant with greater discrimination and efficiency than can be expected from an ordinary constable.
- (3) That greater privacy is secured and that any necessary treatment can be applied without exposure or publicity: this is of particular advantage in the case of female patients.

- (4) That the conveyance by ambulance admits, to a far greater extent than is possible in the case of a wheeled litter, both of observation of the patient by the person in charge and of the application of any remedial measures which may be necessary on the way to the hospital, and, generally, that cases are transported with more comfort and less suffering by a rapid ambulance than by a wheeled litter.
- (5) That if an ambulance system such as exists in New York or Boston and has been partially instituted in the City of London were established throughout the metropolis it would be generally recognised by the public as the regular and proper method of dealing with "street cases," and consequently there would be less objection than there is at present to waiting for the arrival of the ambulance, and the use of the passing cab or van or wheelbarrow, either at the wish of the sufferer or under pressure from bystanders or from the ignorance of the constable of the gravity of the case, would become less frequent or altogether cease.

We proceed to consider these points in their order.

62. The comparative speed of the rapid ambulance and the wheeled litter must be considered with reference to (1) the interval between the happening of the accident or seizure and the arrival of the vehicle; (2) the time occupied in conveying the patient to the hospital. (1) *Speed.*

At present no special provision is made for summoning the wheeled litter. It is either at the nearest police station or in its place elsewhere in the streets, as has already been stated, and a messenger, another constable or a bystander, has to be sent for it. Except in the City there is no special telephonic or telegraphic system of signalling available at or near the place of the accident.

63. The Police Returns in Appendix II. (Tables (G) and (H)) show that in the "accident area" a large majority of the accidents coming within the cognizance of the police in 1906 occurred within a quarter of a mile of an available litter. Thus, in the E (or Holborn) Division, where the largest number of accidents occurred, 599 out of the total of 631 accidents, or 95 per cent., occurred within a quarter of a mile of a litter, and the remaining 32 within half a mile; and in the C Division (St. James's) and A Division (Whitehall), the percentages of accidents within a quarter of a mile of a litter were 86 and 80 respectively. In the L Division (Lambeth) there were 624 accidents, 418 of which were within a quarter of a mile, and 106 more were within half a mile of a litter. In this division, however, there were 100 cases of accident over half a mile away from the litter, 59 over three-quarters of a mile, and 11 over a mile. Taking the whole Metropolitan Police District, 59 per cent. of the 10,855 cases of accident or sudden illness known to the police occurred within a quarter of a mile of the nearest litter. The wheeled litters are of course more readily obtainable in the more densely populated than in the suburban districts; thus in the Divisions M (Southwark), N (Islington), P (Camberwell), S (Hampstead), W (Clapham) and Y (Highgate), the proportions of accident cases occurring within a quarter of a mile of a litter were only between 30 and 40 per cent.

Distances traversed.

The Return in Table (E) of Appendix II., shows the actual distances of the places of the accidents in each of the Police Divisions from the hospitals to which the patients were conveyed. It appears that out of the 8,002 cases of accident which occurred in 1906, 5,567, or 70 per cent., occurred within a mile of the hospital or infirmary to which the patient was conveyed, and of these 1,759, or 22 per cent., were within a quarter of a mile, and 3,517, or 44 per cent, within half a mile of the hospital or infirmary. Of the remaining 2,435 cases, in 1,267 the distance was over one mile and under one and a half miles, in 534 cases between one and a half and two miles, in 428 between two and three miles, in 147 between three and four, in 31 between four and five, in 12 between five and six, in 8 between six and seven, and in 8 over seven miles. With regard to cases of sudden illness, Table (F) shows that 2,219 out of 2,853, or 78 per cent., were within one mile, 1,583, or 55 per cent., were within half a mile, while 42 were over four miles from the nearest hospital or infirmary.

Supt. Cole, of the E (Holborn) Division, upon a calculation of the time occupied in 325 cases occurring in his Division in getting the wheeled litter and conveying the injured person to the hospital, found that the average time from the moment of the accident to the arrival at the hospital in the wheeled litter was 15 minutes. He added that the corresponding time in cases in which cabs or other vehicles ready to hand were used was 5 minutes. In this division the hospitals are conveniently situated, and

Cole, 260.

Cole, 272.

there are 13 litters within the Division, and 5 more just on the boundary which are also available.

City of London Ambulance Service.

Nott-Bower, 1088-1098.

64. The results of the working of the City motor ambulance, as regards the speedy removal of the patient, are given by the Commissioner of Police, Captain Nott-Bower, both from actual experience and experimental trial. The present ambulance serves only the western half of the City, and the patients are conveyed to St. Bartholomew's Hospital. The result is thus stated in a paper handed in by the Commissioner, entitled "The Police Ambulance System of the City of London."

It has been found, after six months' working, that the average time taken after the occurrence of an accident for the ambulance to arrive on the scene is under 4 minutes, and the average time before the patient is delivered in the Accident Receiving Ward of the hospital is only $9\frac{1}{2}$ minutes, *including* the time taken in rendering First Aid on the spot. More than half the time previously taken in conveying an injured person to the hospital has thus been saved.

Summoning the ambulance.

65. The advocates of the rapid ambulance contrast the somewhat haphazard method of obtaining the use of the police or Bischoffsheim litter by chance messenger or constable with the system of special calls recently established in the City of London and elsewhere.

That system is thus described in the paper above referred to:—

The signalling system is provided by the General Post Office. The 52 call boxes are of cast-iron, to a design by Mr. Bainbridge Reynolds, and, like the car, are enamelled white, with red cross and lettering. The boxes are opened by a special key, one of which is carried by every police constable. Inside is a call instrument which, on the handle being pulled, gives a distinctive call. Should the constable wish to communicate with headquarters, he can do so by lifting the telephone receiver from the hook. The call-boxes are all in direct connection with the police headquarters at Old Jewry, through an indicator board which is divided into three sections, and the call is transmitted from there to the ambulance station by a private wire. The boxes are in most cases fixed at places where a constable is on point duty, so that there shall be as little delay as possible in calling up the ambulance.

Simultaneous casualties.

66. In connection with the question of speedy removal, the case has to be considered where several casualties occur simultaneously, or owing to special conditions, such as the slippery state of the streets, in rapid succession: see, for instance, the particulars of the removal of the persons injured in the collapse of the houses in Castle Street, which will be found in Appendix XVIII. The rapid ambulance may convey, in an emergency, two or even three persons in a recumbent position, and in the case of a more thorough organisation of a system of rapid ambulances several might be concentrated where they were needed in a short time: see for example the particulars of two such cases which are given in the accounts of the Liverpool and Manchester Ambulance Services, in Appendices VI. and VII. It may, however, be doubted whether, in the case of a large number of simultaneous or nearly simultaneous casualties in the accident area, the rapid ambulance has very great advantage over the wheeled litter.

Case of Hospital being full.

Henry, 166-7.
Bryant, 1458-1462.
Batten, 1851-2.
Curl, 2016-9.
Woods, 2227-9.
McDonagh, 2334-6.
Holland, 2615-7.
Higgs, 2710-1.
Brown, 3041-8.
Dent, 3507-3512.
Ridewood, 3662-4.

67. Another argument in favour of the rapid ambulance, bearing on the question of speed, is that it may happen that the first hospital to which the patient is taken is full, and that a further journey may have to be taken before accommodation can be found. This appears to happen not infrequently in the case of some of the London hospitals: in the case of other hospitals it is stated to be practically unknown for a patient suffering from serious injuries received in a street accident to be refused admittance. But in the cases in which the patient has to be sent elsewhere the use of the rapid ambulance is a great advantage.

Comparative advantages of horsed and motor ambulances.

Henry, 163-4.
Lyon, 598-601.
Mann, 954-960.
Nott-Bower, 1098.

68. Opinion seems somewhat to differ as to the comparative merits of horsed and motor ambulances. Horsed ambulances are preferred in Liverpool and Manchester, but this is partly owing to considerations of economy, the horses which work the ambulances being also available for the fire brigade and the mounted police. In London the balance of opinion seems to incline in favour of the motor: it has proved a success in the City of London notwithstanding certain drawbacks such as the greater space required for turning and the risk of breakdowns (see the letter from the Commissioner of City Police given in Appendix XI. (2)). In the earlier stage of this inquiry many witnesses thought that the motor ambulance was, as Mr. Mann, the Clerk to the Metropolitan Asylums Board, expressed it, "not yet" ready to supersede the horsed vehicle, but that it would in all probability do so. At a later stage, however, Mr. Mann, after several months' more experience of the comparative advantages of the horsed and motor ambulances for the Board's service desired to modify the evidence he had previously given, and stated:—

Mann, 3681, 3780-5.

I am bound to say that to-day I look upon the electric motor, as installed in the City of London, as being, as nearly as one can get, the ideal motor for street accident work.

An important point in favour of the motor ambulance is that the problem of provision of accommodation is much simplified. Two, or even three, motor ambulances, which would probably be as many as would ever need to be accommodated at one station for street accident work, would take very little space and could be simply and inexpensively housed in comparison with the number of horsed ambulances, horses, staff, forage and other equipment which would have to be provided for to do the same amount of work.

69. The evidence which has been given before us and our own observation leads us to the conclusion that given an effective system of signalling there is a considerable saving of time in favour of the rapid ambulance over the wheeled litter, both as regards the arrival of the ambulance at the place where the patient is lying and as regards his transportation to the hospital. Of course this saving increases in direct proportion to the distance of the place of accident from the ambulance and from the hospital. While, therefore, the argument based upon the comparative rapidity of the two methods has less weight in the accident area, where wheeled litters are easily available and hospitals as a rule are near at hand, it has great weight in districts where distances exceeding a mile between the scene of the casualty and the hospital often have to be covered.

Result of
Evidence.

70. An argument much relied on by the advocates of a complete system of rapid ambulances is that it admits of skilled assistance, with all needful appliances, being brought to the patient, which is not possible under any other system, and of skilled as opposed to elementary First Aid treatment.

(2) Skilled
assistance.

There are, however, very considerable differences of opinion amongst witnesses of high authority as to the character of the skilled assistance which it is desirable to apply before removal to hospital, and as to the question whether it is desirable to attempt anything like scientific diagnosis or treatment before or during the conveyance of the patient to the hospital.

71. Some witnesses advocate the almost entire supersession of the constable except as an officer whose duty it is to keep order and to protect the patient until the arrival of the ambulance, which it should be his first duty to summon in any case of possible gravity, and regard the qualified doctor or surgeon or advanced student with the ambulance, or, at any rate, the specially trained ambulance attendant as an essential part of an efficient ambulance system.

Divergent views
as to scope of
treatment
required.

Other witnesses consider that the proposal to bring highly skilled aid to the sufferer would in the great majority of cases be unnecessary: they emphasise the importance of bringing the patient to the hospital as quickly, as well as safely, as possible, and of avoiding any treatment of the nature of manipulation in the ambulance, save in very exceptional cases of extreme and vital urgency. They would consider the ordinary constable trained in First Aid to be quite capable of appreciating in the great majority of cases the general character of the accident, and of doing what is immediately necessary to be done in order that the patient may be conveyed to the hospital in the safest manner available.

A middle line was taken by some witnesses who advocated the provision of attendants to accompany the patient in the ambulance, though they would limit very narrowly the scope of the treatment which might be attempted and regarded a body of police constables picked from the force on account of their special aptitude in First Aid work as quite meeting the necessities of the case in point of skill.

These divergent views may be illustrated by the evidence of the witnesses next referred to.

72. Dr. R. J. Collie, Medical Examiner to the London County Council and Metropolitan Water Board, and Superintendent of the First Aid Instruction and Medical Classes under the London County Council, does not consider that the ordinary police constable is able to judge what sort of cases should be conveyed by rapid ambulance and what need not be so conveyed. In his opinion there should be a proper rapid ambulance system established, and it should be the duty of the police to summon a rapid ambulance in every case where the patient is obviously injured and cannot walk: the constable should practically not be asked to exercise his judgment in the matter. An essential part of an ambulance system is, in his view, that it should in every case be accompanied by a skilled ambulance attendant (not necessarily or preferably a qualified medical man). The constable might render what aid he can, but in a properly organised ambulance service there ought to be someone come with the waggon who would take the case out of the constable's hands, the sooner the better.

Collie, 1686-7.

1685 A, 1736,
1804-6.
1690.
1698.
1755, 1789-1790

The difficulty of sending with the rapid ambulance a qualified medical man is generally recognised by the witnesses, but many considered a highly trained and skilled attendant to be essential.

73. The late Mr. Reginald Harrison, President of the Metropolitan Street Ambulance Association, stated his views thus :

Harrison, 448.

The ambulance should be regarded, so far as accidents are concerned, not solely as a means for quickly carrying off the patient to the hospital, but really as bringing the hospital, if necessary, with its modern accessories for dealing with wounds and serious injuries, to the patient, with a certainty and speed which can be relied on.

* * * * *

456. Your conception really of an ambulance service is an ambulance fully furnished with all necessary requisites and a skilled person attending it ?—Yes.

457. That seems to be an essential part of your scheme ?—Yes. I do not mean a medical man necessarily.

458. No, but a person highly skilled in First Aid ?—Yes.

74. Dr. James, Secretary of the Metropolitan Street Ambulance Association, also spoke of the necessity of the ambulance always having with it a skilled attendant and proper appliances ; in his view, however, the attendant with the ambulance should be a qualified doctor, or, failing that, an advanced student ; he says :

James, 787.

I think that is one of the most essential things—to take a *skilled attendant*. If you are going to aim at a service which shall be really what it ought to be at the present date, that I look upon as one of the most essential things ; and not only a skilled attendant, but the appliances, and the fact that you must be able to get at your patient. You cannot do that at present, you cannot risk, in some accidents, even taking them 100 yards in an undiagnosed condition.

788. Then, in fact, you, I suppose, would assent to what a witness stated here the other day, that really what you want to do is, in a sense, to bring the hospital treatment to the patient ?—Yes, to bring the hospital treatment to the patient. I think that is very essential.

Speaking of the necessity of the sufferer being dealt with on the spot by a person possessed of a far greater degree of skill than a police constable could possibly get from First Aid instruction, Dr. James says :

791.

We can only hope to make every average constable trained in First Aid ; we can never hope to go beyond that, and I should look upon that as practically one per cent. of the requisite amount of knowledge.

792. Then in your view it is absolutely essential to bring a skilled person to the spot ?—It would require at least a hundred times as much knowledge as you can ever hope to instil into an intelligent policeman.

* * * * *

798. Then you do not think it would be a proper system which limited its attention simply to rapid transit from the place of the accident to the hospital ?—No, I do not.

799. You put that as a secondary consideration ?—Yes ; rapid transit is not the first consideration ; it is secondary, except in so far that you must have rapid transit to get quickly to the patient.

800. Yes, to the patient ; but is it more important to have rapid transit in order to get to the patient quickly with these facilities which you have enumerated, than to have rapid transit from the place of accident to the hospital ?—Yes, it is more like the fire brigade ; if you have a fire to deal with, the engine must be there in absolutely the smallest possible space of time. It is for the firemen then to decide whether they shall play the hose on it or not.

801. The fireman being the doctor ?—Yes.

802. Or the skilled person ?—Yes.

Dr. James's suggestion involves the presence of a person sufficiently skilled to diagnose in a medical or surgical sense the nature of the injury, and, consequently, he adds :

848.

If you did not follow the New York system of having qualified doctors to attend, one would select medical students. A third or fourth year student would be very good.

861.

I should suggest medical students to begin with ; they would be cheaper than doctors, and I think they would do all that is necessary ; because now with a five years' curriculum they have plenty of time, and it ought to be a much sought after appointment

Bryant, 1377,
1387.

Appendix XIV.

75. A different view is taken by Mr. Thomas Bryant, who had an experience of over 30 years as surgeon to Guy's Hospital. He considers the policeman on the spot the proper person to render First Aid. The policeman should be fully instructed in First Aid duties, and should have written instructions given him as a guide to the use of the different means of transport open to him. He sees no difficulty at all in giving to the police general instructions as to the method of dealing with ordinary cases. In his opinion the police constable can be sufficiently trained to be able to use his discretion as to whether an injured person may be sent to hospital in a cab, a wheeled litter, or a rapid ambulance, supposing one to be available ; the mode of conveyance would depend to a large extent upon the place and nature of the injury.

1381.

For example, he should be directed that in transporting cases of injury to the head, chest, abdomen, or pelvis, indeed any injury to one of the four great cavities of the body, a horizontal position should be maintained, with perhaps a cushion just to raise the head and shoulders a little, and the head turned to one side.

The same horizontal position should be observed in all cases of fracture of the lower limbs, however simple the fracture may be. And in all cases of sudden illness and when the injured person is faint the same rule must be observed. In injuries to the upper extremities a cab may be used.

76. With regard to the important question of bringing skilled assistance with the

ambulance to the patient, Mr. Bryant considers it quite impracticable to adopt the proposal to send with the ambulance a doctor or a medical student. He deprecates any attempt at thoroughly diagnosing the injury on the spot, holding that the patient ought only to be examined and diagnosed by the hand that is to treat him. 1388.

Mr. Bryant cites in support of his view the experience obtained in the Russo-Japanese War.

The Japanese at the beginning of the War gave a positive order that no case beyond First Aid (that is to say, the wound is shut up and covered, and the bleeding stopped) was to be dealt with at all in the field hospitals—no operations and no manipulations—but they were all to be just done up as nicely as possible and sent to the base hospital. And the success of the cases was perfectly astounding. We could not believe it. Now that we know what the Japanese did it has certainly come home to us. That is the same principle precisely; and perhaps, in our case, it is more necessary, because you could not have a good aid sent with the ambulance. A doctor would not go. You could not take a doctor from the hospital, they have no one to go, they have all got their own duties. The students would not come, and they would be no good if they did, because, if you remember, I first stated that the less manipulation of the wound the better. 1388.

Mr. Bryant adds:

The duty of the police is simply to get the case to hospital as safely as they can—rapidly, if the case will allow it—but safely under all circumstances, and then let the diagnosis be left to the hospital. As to stripping patients in the ambulance and so on, your own common sense tells you that that cannot be done efficiently—with women, particularly. 1388.

* * * * *

It should, however, be left to the surgeon at the hospital to diagnose and manipulate the case. I know, myself, speaking not only from theory but from practice, how often at the hospital I used to find cases brought in and to say, "What a pity such-and-such a thing has been done." If there is bleeding, you can put on a pad, and apply pressure or a bandage, the police can do that; and that is why I say that every policeman should have a first aid packet in his pocket, or in the ambulance, when it comes, but it would be better in the policeman's pocket. 1389.

Mr. Bryant admits that in exceptional cases medical aid may be wanted—this, he thinks, might be supplied either by calling in a local doctor or by a special telephonic message to a hospital, but he appears to be of opinion that in the great majority of cases the First Aid which the police can be taught to render is sufficient without the necessity of any more highly skilled assistance. 1397.

77. Mr. Morris, President of the Royal College of Surgeons of England, also dissents from the proposal to send with the ambulance a qualified medical man or a senior student, and gives his reasons at length. He thinks, however, that some specialised knowledge is necessary, and that it would be sufficient, if a system of rapid ambulances was established, to send with the ambulance a constable who has been selected and trained for the purpose. 3131-3.

78. Sir William Church, late President of the Royal College of Physicians, in reply to the question whether, in his opinion, First Aid, such as the application of splints, should be rendered by the policeman on the spot or by an attendant coming with the ambulance, said:—

I think that the City Police are really fairly well instructed in First Aid, and I can imagine that it would be better for the patients that the policeman who is first summoned, and is waiting for the ambulance, should in some cases put on a splint; but I think that his first duty is to keep the patient, if possible, perfectly still, in as comfortable a position as he can be placed in. 3303.

79. Those who lay stress on the necessity of the rapid ambulance being accompanied by a skilled attendant would restrict the action of the police constable on the spot to applying such treatment as may be absolutely necessary to be done at once. First Aid, in this limited sense, must, it seems to us, under any system be in some cases rendered by the constable on the spot, if it is to be rendered in time. But in the absence of any such apparently pressing necessity the treatment should, in the opinion of the witnesses referred to, be left to the skilled attendant, whose duty it would be to ascertain as far as possible the nature of the injury and apply the treatment, if any, required to secure safe transport to hospital.

80. It is worthy of observation that in Boston, probably the place where the most highly organised ambulance system exists, no doctor as a rule accompanies the police ambulance, although the police deal with all kinds of emergency cases, including accidents on private premises. A police constable trained in First Aid is considered sufficient. It must, however, be remembered that the Boston police can always obtain, if necessary, a hospital ambulance which is attended by a qualified practitioner. Attendants in other ambulance services. Appendix VIII.

On the establishment of the Liverpool ambulance service in 1897, the New York system of sending from the hospital a medical attendant was adopted at first. We found, however, on inquiry on the spot that this practice has been found very cumbersome, and the medical authorities whom we had the opportunity of consulting considered that the practice was unnecessary. Appendix VI. Nott-Bower, 1012. 1078-1085. Cox, 1920-2

Appendix VII.

In Manchester, the ambulance service is worked by a distinct staff of police officers, specially selected from the force for their character and skill in First Aid work, and the ambulances are accompanied by one of the men on the ambulance staff as driver, but not by any surgeon or doctor. We found that, in the opinion of the hospital and other medical authorities whom we had the opportunity of consulting, this arrangement worked quite satisfactorily.

Par. 53.

In the City of London also, selected police officers who have proved themselves specially proficient in the application of First Aid treatment are sent with the ambulance. We have already cited testimony to the efficiency with which patients are dealt with by the City of London police.

Female Attendants.

Appendix VII.

81. We found that at Manchester, when the telephone call to the ambulance station discloses the fact that the injured person is a female, a matron from the adjoining police station is taken with the ambulance and accompanies the patient to the hospital or infirmary. The desirability of a matron or nurse, instead of a male attendant, accompanying the ambulance when the injured person is a female, should not be lost sight of in any arrangements that may be contemplated for providing a system of rapid ambulances with ambulance attendants.

Par. 113.

Inference from evidence.

82. Or the whole we think that the evidence which has been given before us points to the inference that in London it would be impracticable, even if desirable, to attempt to organise a system with the rapid ambulances accompanied by either a fully qualified medical practitioner or an experienced medical student. Whether in the event of the establishment of a service of rapid ambulances an experienced attendant should be sent out with the ambulance; and, if so, what should be the qualification and status of such attendant will be considered hereafter.

Par. 113.

(3) Privacy.

83. With regard to the advantages claimed for the rapid ambulance over the wheeled litter in respect of privacy, Mr. Morris observes :—

Morris, 3143.

There is, moreover, the mental distress, suffered by many, and especially by women, because of the exposure of the litter to public view, or of the remarks which may be overheard during the transit at a walking-pace to the hospital.

Dent, 3436.

Par. 45.

No doubt the rapid ambulance has an advantage over the wheeled litter in this respect, but we are inclined to agree with the Chief Surgeon of the Metropolitan Police that a somewhat exaggerated importance has been attached by some witnesses to the need of protection on the way to the hospital from the action of the crowd.

(4) Observation of the patient.

84. Mr. Morris's authority may also be cited with regard to another defect in the wheeled litter which appears not to be capable of being completely remedied, though it is difficult to estimate its gravity :—

Morris, 3143.

There is no possibility with the wheel litters or hand stretchers of giving proper attention to the patient *en route* to the hospital in the event of hæmorrhage, deepening shock, faintness, or shifting of bandages, pads or splints owing to the restlessness or violent or unconscious struggling movements of the patient.

Dent, 3434-3436.

The Chief Surgeon concurs in the view that the fact that the patient in the wheeled litter is "out of sight very much" is a serious defect, and desires to introduce an observation opening in the back, so that the patient may be covered up and yet can be seen by the person in charge of the litter. He also agrees that to have somebody inside the ambulance with the patient is a decided advantage in a few cases.

(5) Education of the public.

85. Mr. Morris dwells with much force and emphasis on the importance of familiarising the public with the use of the ambulance. He says :—

Morris, 3138.

If it were known that a horse or a motor ambulance would be brought, within a few minutes, to the place where the injured person lay, the public would soon learn the wisdom of waiting for the ambulance and would not, in the absence or otherwise of a constable, insist on hustling the injured person into a cab or other unsuitable vehicle. Thus very many injured persons would be saved from having their condition rendered worse by inappropriate and imperilling transport.

Harrison, 557-9.
James, 770, 813.
Nott-Bower,
1098, 1132, 1162.
Collie, 1708-9.

This consideration has also been urged on us by other witnesses, and we find that the experience of the use of the rapid ambulance in such places as New York, Boston, Liverpool and Manchester appears strongly to support the argument. We attach great weight to this consideration in favour of the introduction into the Metropolis of the use of rapid ambulances.

Experience of working of City of London Motor Ambulance.

86. Sir William Church, late President of the Royal College of Physicians, agrees to a large extent in Mr. Morris's view as to the advantages of a rapid ambulance over the present wheeled litters, and emphasises this view by reference to the experience of the work of the new motor ambulance in that portion of the City of London in which it operates, where the cases are conveyed to St. Bartholomew's Hospital.

There is some opportunity at St. Bartholomew's Hospital of comparing the condition of patients brought to the hospital by the City ambulance and those brought from the adjoining portions of the Metropolitan Police District in wheeled litters. Between November 1st and December 18th, 1907, 131 surgical and 50 medical cases were brought in by the City motor ambulance, and 47 surgical and 11 medical cases by wheeled litters. Sir William Church told us that he had found on inquiry that

the opinion of the officers who receive these cases is that those brought in by the motor ambulance suffer much less than those which have been brought in by the police ambulance (*wheeled litters*). 3250.

87 We think it has been established that in cases of grave accident or of sudden and serious illness occurring in the streets or other public places, removal by rapid ambulance to hospital or elsewhere is, for the reasons which we have discussed in the preceding paragraphs of this Report, the most appropriate method of conveyance. The principal difficulty of the inquiry appears to us to consist in dealing with the question as to the manner in which an adequate supply of rapid ambulances can be provided and organised, with due regard to economy, so as to meet the necessities of, and be suitable to the special conditions prevailing in the Metropolis. **Inference from Evidence.**

(2) ORGANISATION OF SYSTEM OF RAPID AMBULANCES.

Important suggestions for the organisation and improvement of the ambulance service of London were made to us by Mr. Morris, President of the Royal College of Surgeons of England, and by Sir William Church, late President of the Royal College of Physicians.

88. Mr. Morris's *précis* of evidence intended to be given to the Committee was laid by him before the Council of the Royal College of Surgeons on November 11th, 1907, and a resolution was passed by the Council expressing general approval of the views therein expressed. The *précis* will be found embodied in Mr. Morris's evidence. **Mr. Morris's scheme. (A Police Department).**

After giving a full account of the present system of ambulances in London under the heads of 'Ambulances available for Infectious Cases' and 'Ambulances available for Non-Infectious Medical, Surgical and Mental Cases other than Accidents and sudden Illnesses occurring in the Streets,' Mr. Morris advocated the establishment of a system of rapid ambulances under the direction, control or co-ordinating influence of a central authority. He thinks this central authority should be the police : **Morris, 3090.**

I would have all ambulances for street purposes brought under one control, and I have no hesitation in saying that my selection of the controlling authority, if I had to make it, would be the police, and that it should be a separate section of the police, just as the detective department is a separate section. 3094.

Mr. Morris would have a separate branch—a 'street ambulance department'—of the police. Over and above the ordinary training of the police, such as police recruits receive, he would have 'special men for this department :

There would be a driver, of course, or chauffeur, if it were a motor ambulance, but there should be a special ambulance attendant, a policeman, very efficient in First Aid, and thus the ambulance service would all be done by the police, and not by a medical man.

89. A difficulty in carrying out Mr. Morris's suggestion of establishing a 'street ambulance department of the police' seems to lie in the definition of the functions of such a department. The name seems to imply that the functions of the police should be to deal only with "street cases." But if the ambulances of the department are liable to be summoned, as appears to be contemplated by Mr. Morris, not only for "street cases," but for accidents occurring in private premises, such as railway stations, factories or private houses, a very large addition to the number of ambulances and to the strength of the ambulance staff would be required. **Question of application to cases other than "street cases."**

Sir William Church, who would, like Mr. Morris, have the police deal with cases of accident or sudden illness occurring on private premises, told us :—

The City Police tell me that they really now do this ; that, as I said, people come down now to a policeman in the street and say " We have got a case of sudden illness, what are we to do ? " and they at once send now for the ambulance and the person is taken to hospital. **Church, 3260, 3243-5.**

Although, as already pointed out, neither this last-mentioned class of cases, nor ordinary cases of removal from private premises fall strictly within our reference, we think it well to quote the following evidence of Sir William Church, because, as we have already stated, we think it is necessary to keep in mind in any suggestions or recommendations we may make the fact that there does exist a very serious need of some means of conveyance for the class of cases to which Sir William Church refers, and that if at any future time steps should be taken to supply that need it may be important to consider whether all "street cases," emergency cases on private premises and ordinary

cases of removal from houses to hospitals should not be dealt with under some comprehensive system. Sir William Church says:—

3260. There is another class of cases, which I suppose is not quite within your reference, but which I should like to allude to, which are in need of better means of transport than now exist. I refer to cases of illness among the poorer classes, not paupers, which, in the opinion of their medical attendant, should be removed to hospitals or infirmaries. . . . Such cases undoubtedly suffer from the absence of proper means of transport. Cases of that sort I can speak of from my own personal experience. I have not the slightest doubt that they suffer very materially. Sir William Collins will be able to follow me, but I have written on the subject, and I have taken great interest during the greater part of my life, in acute rheumatism. A patient with acute rheumatism was placed in agony when he was moved, and it is a very frequent disease in London; and these poor patients used to be brought to hospital wrapped up in flannels, some on stretchers, some on doors even, and the majority in cabs; they had to be hauled down from their rooms and transported to the hospital in that way. The consequence was that you ordinarily found that their greatest fever and distress was in the night following their removal. That was very marked when I was younger; but the treatment of rheumatic fever was very different when we did not make use of means which now very rapidly lower the temperature, and have very much robbed rheumatic fever of its horror. These cases used to be most distressing, and certainly they suffered pain, and, I believe, material harm from the way in which they were transported.
- 3261.

3262. Would you say that cases of that sort where medical treatment is required, and there is really no means of transporting them to hospital, are very numerous?—Yes, they are numerous. The larger number of medical cases in a large general hospital are cases which have been attended by a doctor at home, who says: “Really I can do nothing more for you here; the best thing you can do is to go to a hospital.” Almost all those patients are still transferred either in a cart or a cab.

3263. Therefore, if you had a complete ambulance service, such as is stated to exist in New York and Boston, those cases would form a very important portion of those that have to be dealt with?—Yes.

3264. Would you say that any ambulance system is complete which does not provide for that?—No. Then I did not put anything on my *précis* because it is not within your reference, but I am prepared to offer suggestions for the transport of such cases.

90. The conclusion we draw from Sir William Church’s and the other evidence is that if a system of rapid ambulances is established it would be extremely difficult to confine its use to “street cases,” by excluding emergency cases occurring in private premises and the still larger class of cases of which Sir William Church speaks: and, moreover, where the need for dealing with cases other than “street cases” is so great as the evidence above quoted seems to prove, it seems most desirable that if any new system of rapid ambulances should be established the ambulances should be available for both classes of cases. Experience seems to show that it is difficult, if not impossible, in practice to draw any hard and fast line between the two. The refusal of the use of a rapid ambulance because the case, however urgent, occurred not in the street but in private premises, would be felt to be a strange and cruel anomaly. We think, therefore, that if a system of rapid ambulances is introduced it should be on such lines as to be capable of being made available for all classes of cases.

91. The proposal made by Mr. Morris thus raises the serious question whether, having regard to the multifarious duties and comparatively small number of the Metropolitan Police, it would be possible for that force to undertake, consistently with the efficient discharge of their principal functions—the prevention of crime and maintenance of order—to deal with cases of accidents and sudden illness elsewhere than in streets and other public places.

We have, of course, carefully considered this question, and, while recognising that it may be possible for a comparatively small police force, operating in a limited area, to extend its ambulance service beyond “street cases,” and that this has, in fact, been successfully accomplished on a considerable scale in the City of London, Manchester and Liverpool, we have come to the conclusion that we cannot recommend that the Metropolitan Police should undertake the responsibility of an ambulance service on similar lines, serving other than “street cases.” On these grounds we have not been able to adopt the scheme advocated by Mr. Morris for an “Ambulance Department” of the Metropolitan Police.

92. The suggestions made by Sir William Church include the method of dealing with “street cases” as well as the other two classes of cases—emergency cases on private premises and ordinary cases of removal from houses. Sir William Church had previously, as he explained to us, been of opinion that an ambulance service confined, however, to “pure accidents and sudden emergencies” might, largely on grounds of economy, be united with the work of the fire brigade and placed under the authority of the London County Council. This proposal met with objections on the part of the Fire Brigade Committee, and it was a scheme wider in scope which Sir William Church proposed to us. He pointed out that there is at present in existence an efficient service of ambulances, namely, those

Sir William
Church’s scheme.
(Metropolitan
Asylums Board.)
Church, 3320.

Gomme,
1284–1294.

belonging to the Metropolitan Asylums Board, which were formerly used only for the removal of infectious cases. Recently, as has already been mentioned and will be further explained below, a number of ambulances have been provided and are used by the Metropolitan Asylums Board for the transport of non-infectious cases. Sir William Church's proposal is that this non-infectious service should be extended, and that the whole of the transport of the sick and injured within the Metropolis should be placed in the hands of the Metropolitan Asylums Board. As regards the suggestion that a fully equipped ambulance department of the Metropolitan Police should be established, Sir William Church admits that—

it would be perhaps a more perfect system to have the whole of the emergency cases transported by the police, as well as first taken care of by them; but it seems to me that it would be a very great expense. 3305.

I wondered whether you would have any objection to the police being the authority, rather than the Asylums Board?—Only that I think it would entail such an enormous expense, because they would require to have one or two large stations where they would have to keep their reserve ambulances, which would occupy a great deal of space; and if that had to be acquired within the congested area, the expense of obtaining those sites would be enormous. 3306.

93. The Metropolitan Asylums Board was established in 1867 by an order of the Poor Law Board under the Metropolitan Poor Act, 1867 (30 & 31 Vic., cap. 6) for the reception and relief of the classes of persons chargeable to some union or parish in the prescribed district who might be infected with or suffering from fever or small-pox or (by an Order of 1889) diphtheria or who might be insane. The area of the district has been altered and the scope of the Board's functions extended by subsequent orders, for example in respect of children who are "defective" or suffering from ringworm or ophthalmia. The Board's expenses, so far as regards the ambulance service, are payable, to such an extent as the Local Government Board may sanction, out of the Metropolitan Common Poor Fund, raised according to the provisions of the Metropolitan Poor Act, 1867 by contributions from the several unions and parishes in the Metropolitan Asylums District, which is practically identical with the Administrative County of London, including the City of London. **Metropolitan Asylums Board. Legal position.** Mann, 931.

The Board's hospitals commenced to receive and treat cases of infectious disease in 1870. By section 16 of the Poor Law Act, 1879 (42 & 43 Vic., cap. 54), the Board were empowered to provide and maintain ambulances for the conveyance of persons suffering from any dangerous infectious disorder. Section 6 of the Poor Law Act, 1889 (52 & 53 Vic., cap. 56) authorised the Board to use such ambulances for the transport of persons suffering from dangerous infectious disease to and from places other than the Board's hospitals, and to make reasonable charge for such use. This provision is re-enacted by Section 79 (3) of the Public Health (London) Act, 1891 (54 & 55 Vic., cap. 76), which repealed Section 6 and other portions of the Poor Law Act, 1889, and by Section 70 of the same Act the use of any public conveyance for the transport of any person suffering from dangerous infectious disease is prohibited. Mann, 931-3.

94. Mr. T. Duncombe Mann, Clerk to the Metropolitan Asylums Board, thus describes the growth of the Board's ambulance service:— **Ambulance stations.**

The Board proceeded very tentatively to erect one station after another, and at last got up to the present condition. The service now consists of eight ambulance stations. Each station contains quarters for the superintendent and housekeeper (with the exception of Tooting Bec station, which is intended to be worked from one of the other stations and has accommodation for only two men); sleeping accommodation, with baths and lavatories, for the male and female staff; a kitchen, mess and store rooms; a laundry, coachsmith's forge, general ambulance store, and equipment room. In each there are harness rooms and coach-houses, ambulance carriages for acute cases, and omnibuses for convalescent patients. The horses are hired by contract in numbers sufficient to meet the varying exigencies of the service; that is to say, we have a running contract, and the number of horses that we keep goes up and down according to our requirements. All the ambulance stations are connected with the chief office by private telephone lines (that is a very important point), and when the office is closed between 11 p.m. and 9 a.m., they are switched on to the public Telephone Exchange. Mann, 931.

The eight stations above referred to are situated as follows:—

Four on the North side of the Thames, roughly in a semi-circle of four or five miles radius from Charing Cross, namely, to the North-East the Eastern Hospital and Ambulance Station at Homerton; to the North-West the North-Western Hospital and Ambulance Station near Haverstock Hill; towards the South-West, the Western Hospital and Ambulance Station in Seagrove Road, Fulham; and the "Mead" Ambulance Station, close to Wandsworth Bridge; and—

Four on the South side of the Thames in an irregular line more or less parallel to the river and about two miles South of it, namely, at the West end of the line, the Tooting Bec Asylum and Ambulance Station in Tooting Bec Road; then the South-Western

Hospital and Ambulance Station (Londor Road Stockwell) close to Clapham Road Station; the South-Eastern Hospital and Ambulance Station, New Cross Road, close to the Old Kent Road Railway Station; and at the eastern extremity of the line the Brook Hospital and Ambulance Station, Shooter's Hill, at the South end of Woolwich Common.

Statistics of the number of patients removed by the Board's ambulances, the number of journeys run, expenditure, etc., are given in Appendix X.

Non-infectious service.

95. The want of an ambulance service for dealing with non-infectious cases was brought prominently to the notice of the Board, and on November 28th, 1903, the Board passed a resolution in the following terms:—

Mann, 935.

That, in the opinion of the Managers, it is desirable and practicable to extend the operations of their ambulance service so as to include the transport of medical, surgical, and mental cases, for which application may from time to time be made by any authority or person within the Metropolis: provided that such extension of the ambulance service shall not be held to include the removal of cases of street accident, nor of patients to and from the several lunatic asylums under the control of the London County Council, unless by special sanction of the Ambulance Committee, or, in emergency, of the Chairman of that Committee, or the Clerk to the Board. That upon the necessary legal authority being obtained for the Managers by the Local Government Board, the work be immediately undertaken, and a charge of 7s. 6d. made in respect of each removal and, in addition, a mileage of 1s. 6d. beyond the boundary of the Metropolis.

Mann, 3861-3.
936-942.

It should be observed that this resolution of the Metropolitan Asylums Board suggests a use of their ambulances in excess of their present legal powers, and excludes cases of street accident. It was stated by Mr. Mann that the sole reason for the exclusion by the terms of the resolution of cases of street accident was that at the date of the resolution "the London County Council were contemplating street accident work." After some communication with the London County Council the Metropolitan Asylums Board applied to the Local Government Board for sanction for the use of the Board's ambulances for the conveyance of mental, medical and surgical cases upon the terms set out in the resolution of November 28th, 1903. No communication beyond an acknowledgment of this application has been received from the Local Government Board; but at the risk of a surcharge by the Local Government Board Auditor the Metropolitan Asylums Board have instituted and are now carrying on an establishment of ambulances for non-infectious cases in pursuance of the resolution of November 28th, 1903. Mr. Mann thus describes the action of the Metropolitan Asylums Board pending the answer to their application for formal sanction:—

943.

In the meantime, as the Board had no reason to anticipate any other than a favourable reply to their first application, and having regard to the fact that a majority of the Metropolitan Borough Councils, Boards of Guardians, and authorities of General Hospitals, had expressed themselves in favour of the work being undertaken by the Asylums Board, the Ambulance Committee had permitted, and are permitting, the non-infectious cases of the classes before-mentioned to be conveyed by the Board's ambulances upon the terms laid down in the Board's resolution of 28th November, 1903. In the year 1904, 68 cases were conveyed; in 1905, 134 cases; in 1906, 424 cases; and during the current year the number of cases conveyed up to date (*June 14th*, 1907) is just over 400.

944. These are not street accidents?—I cannot say that they do not include street accidents.

945. But they would be very few?—There are a few.

The total number of non-infectious cases conveyed in 1907 by the Board's ambulances under this arrangement was 841.

Downes, 2917.

It seems to us that the action of the Metropolitan Asylums Board, and the apparent acquiescence of the Local Government Board in what appears to be the employment of the ambulances of the Metropolitan Asylums Board for purposes not strictly within the legal powers of the Board is strong evidence of the need of London for an improved ambulance service, at all events for other than "street cases." Indeed, we understand from Dr. Arthur Downes, the senior Medical Inspector for Poor Law purposes of the Local Government Board, that upon this question and also upon the question of the utilisation of the ambulances belonging to the Guardians of the Poor for general ambulance purposes the attitude of the Local Government Board is one of "expectancy and benevolent neutrality," provided, of course, that "the Poor Law service must not be detrimentally affected."

Co-operation of Police.

Henry, 79-87.
Mann, 946.

96. In March, 1906, a correspondence took place between the Metropolitan Asylums Board and the Commissioner of Metropolitan Police with regard to the use of their ambulances for non-infectious cases. A Police Order dated June 12th, 1906, was issued in consequence of this correspondence, a copy of which will be found in Appendix III (B). It will be seen that the object of the Order is primarily to instruct the police to give information to persons making application to them as to the terms on which the services of the ambulances can be obtained. They are directed to give every facility "to cause an ambulance to be sent with the least possible delay to any place where its services may be required," and the names and addresses of the six ambulance stations where the ambulances for non-infectious cases are kept are given. Occasionally the police apply for an ambulance to one of the stations for a

Lyon, 591-5.
Mann, 943-5,
947.

“street case,” though this course appears to be only resorted to in cases of extreme urgency. Mr. Mann told us that in the year from the date of the Order till June 14th, 1907, when he gave evidence, there had been only 19 applications for their use by the police themselves, namely, in 8 cases of street accident, 10 of illness and 1 of murder.

97. By the steps above described the Metropolitan Asylums Board have in fact set on foot a non-infectious branch of their ambulance service, the use of which has markedly increased during the last three years, though, as is shown by the figures given above, the operations are still on a comparatively small scale. It is, in fact, as Mr. Mann expressed it, a “mere excrescence on the proper service at the present time,” though, as Mr. Mann also said, the number of ambulances the Board have available for non-infectious cases is practically unlimited—

Extent of
Non-infectious
Service.

Mann, 953.

I could not tell you the precise number, because we have a considerable reserve, we could increase it to any extent that is likely to be wanted. We keep a substantial reserve of vehicles, and we could practically increase it for any branch of service at any moment.

978.

In his evidence given at the close of our inquiry Mr. Mann stated :—

3677.

We have at the moment 14 clean ambulances. That number could be enlarged almost indefinitely, because with our large fleet of vehicles we are always adding to them. I need hardly tell you that we are replacing horse-drawn vehicles with motor-drawn vehicles, and that I expect will develop still more considerably. We have in fact at this moment before the Board a scheme—which may or may not be approved—I think it probably will—for converting one of our stations—the Western Station—into a station composed wholly of motor vehicles. That would set free another 15 vehicles straightaway, which could be devoted to this purpose if it was wished.

3678. Your number of motor vehicles is increasing ?—Yes.

3679. Do you find that they work satisfactorily ?—Yes ; and I think it is bound to increase.

98. With regard to the steps which have actually been taken to utilise the ambulances of the Metropolitan Asylums Board for non-infectious cases, Mr. Mann tells us that—

Separation of
infectious from
non-infectious
services.

Every precaution is taken to prevent any suspicion of the vehicles or men employed on this work being infected. The ambulances are painted a different colour and are kept apart from those employed on infectious work ; also the men wear different uniforms (brown instead of blue cloth), and themselves are responsible for cleaning the ambulances on their return to the station after each removal with utensils specially kept for the purpose.

946.

It should, however, be observed that Dr. Downes adds that he “cannot avoid some fear that there may not always be sufficient guarantee that infection will be separated from non-infection,” and in reply to the question whether the ambulances used for infectious cases and those used for non-infectious cases were not kept at the same stations he replied—

Downes, 2985.

They are, I believe, at the same stations, and I think under rather crowded conditions sometimes. I further think that there would be a need of some skilled and constant supervision to see that there was proper separation of infectious and non-infectious ambulances and articles. There is also the question of the separation of the staffs.

2987.

It appears also from Mr. Lyon's evidence that there are not separate staffs for the infectious and non-infectious services, but the men wear different uniforms on the two services.

Lyon, 710-3.

99. We are disposed to agree with Sir William Church that any objection to the use of any ambulances of the Metropolitan Asylums Board for “street cases” on the ground of danger or apprehended danger of infection would not be formidable, if felt at all, and that any prejudice on such a ground would disappear if the organisation of the ambulances for emergency purposes was kept entirely separate from that of the ambulances for infectious cases, and efficient means of disinfection were adopted in any case where there was any indication of a patient conveyed in an emergency ambulance having been in an infectious condition. The view that this objection ought not seriously to weigh against the other advantages of the scheme seems to be supported by the evidence as to the present practice of utilising the ambulances of the Metropolitan Asylums Board for non-infectious cases. It may also be observed that in Paris and Berlin (Appendix IX.) the same ambulances are used for infectious and non-infectious cases, the ambulances being disinfected every time after use.

Apprehension of
danger from
infected
ambulances.

Church, 3266.

Par. 112.

100. Though we are not in a position to form an estimate of the approximate cost of the substitution of rapid ambulances for wheeled litters, or even that of supplementing largely the present methods by the introduction of a considerable number of rapid ambulances, it is obvious that the supply and upkeep of a sufficient number of motor or horsed vehicles, the cost of the staff required, the provision of stations, stabling and garage, and the installation of a system of signalling would constitute a very serious burden on the ratepayers. In this connection we may draw attention to the particulars given in Appendix XI. of the cost of the first year's working of the City of

Cost.

Morris, 3155-8.

London Motor Ambulance, which amounted to £1,217 9s. 2d., including a depreciation allowance for the Ambulance, etc., at the rate of one-fifth of the capital cost. Mr. Morris's information that there is at present a very considerable surplus of the Metropolitan Police Fund, which he suggested might be made available for the purpose of establishing and maintaining an ambulance service, is, unfortunately, inaccurate. A short memorandum by the Receiver for the Metropolitan Police District printed in Appendix XVI., shows that when the annual charge imposed on the Police Fund in respect of Police Pensions is taken into account there is not a surplus but a large deficit in the Police Fund. If, therefore, the cost of the establishment of a system of rapid ambulances were thrown on the Police Fund, it would seem to follow that the statutory limit imposed upon the Police Rate by the Statute 31 & 32 Vict., c. 67, s. 2, must be repealed or modified.

Financial
adjustments.

Par. 117.

101. It must also be borne in mind that the police rate and the County of London rates are not raised from the same area. The police rate is paid by the various parishes within the Metropolitan Police District, which, as has been pointed out, is very much larger than the County of London, and includes such outlying populous places as Croydon and West Ham. In so far as the cost of the establishment of a rapid ambulance system is thrown upon the Police Fund the whole Metropolitan Police District will contribute to it. In so far as it is thrown on the Metropolitan Asylums Board it is provided by a rate running throughout the Administrative County (including the City). If the main items of expenditure—the provision and maintenance of a sufficient number of rapid ambulances, the provision of stations for them, the necessary staff and signalling apparatus—are borne by the Metropolitan Asylums Board, the principal part of the burden of the expense of the system will be borne by the ratepayers of the Administrative County. On the other hand, there will be some additional cost thrown upon the Police Fund. If, as we think is desirable, more time is devoted by a larger number of police officers to First Aid training and to assisting in the service of the rapid ambulances, additional expense must be incurred, which will be borne by the ratepayers of the whole Metropolitan Police District. There is considerable difficulty in this, as in other branches of the finance of the Metropolitan Police, in adjusting the burden of the police rate fairly between the Metropolis, in other words the County of London, and the outlying portion of the Metropolitan Police District. At present the cost of the police wheeled litters, and generally of the services of the police in relation to “street cases” throughout the Metropolitan Police District is borne entirely by the Police Fund. Our reference, as has been already pointed out, is confined to the Metropolis. We are about to recommend the introduction of a rapid ambulance system into the Metropolis. It would be manifestly unjust, if the use of the ambulances is confined to the Metropolis, to throw the whole burden of the cost of this system on the police rate, a large proportion of which is paid by the parishes outside the Metropolis, which would derive no benefit from the new system.

Ambulance
service outside
the County area.

102. Although, as we have said, the question of an ambulance system applicable to places outside the Metropolis is not strictly within the terms of our reference, we think we are justified in making the following suggestions. Assuming that a system of rapid ambulances is established and maintained by the Metropolitan Asylums Board in co-operation with the police on the lines above suggested, a substantial, though we think not the largest portion of the cost will be borne by the Metropolitan Police Fund. It is therefore only just that some portion of the benefit of the new system should be extended to the whole body of the contributors to the fund. On this assumption it should be competent to the Metropolitan Asylums Board to make arrangements for the use of their ambulances in the outlying portions of the Metropolitan Police District, and if necessary to establish stations there. For the use of the ambulances in this part of the Metropolitan Police District a payment at an agreed rate should be made out of the Police Fund to the Metropolitan Asylums Board. Such an arrangement would be analogous to the statutory provision made by 10 and 11 Vict., Cap. 89, sec. 32 and 33, empowering a Borough to send the Borough engine to a fire outside the limits of the Borough, the person benefited paying the expenses. It may perhaps be said that there would be some injustice on the ratepayers of the Metropolis on the ground that they are contributors to the fund out of which the payment would be made. It is impossible in this and many other instances to adjust altogether without some anomaly the incidence of the burden and the benefit of the police rate between the inner and outer portions of the district, but such a settlement as is suggested seems on the whole a fair one.

Charge to patient
for use of the
ambulance.

103. In connection with the question of finance it has been suggested that a charge might be made for the use of the rapid ambulance upon the person for whose benefit it

was summoned, with power of remission in cases of poverty. Such a charge is, as stated above, now made by the Metropolitan Asylums Board for the transport of non-infectious cases. We are unable to adopt this suggestion as applicable to "street cases." We think it is essential that there should be no charge upon the patient for the use of the ambulance in these cases, but that it should be provided at the expense of the public. In the large proportion of the serious "street cases" the sufferer is physically unable at the moment to give the assent which would be necessary before he could be made liable to any payment; and, if he is capable of consenting, the knowledge that he would have to pay might increase the difficulty of inducing him to use the ambulance. It would, moreover, be impossible to endeavour to obtain payment from poor persons, and to discriminate between persons who were able and those who were unable to pay would be a very invidious and unsatisfactory proceeding. We therefore think that no charge should be made in "street cases" for the use of the ambulance.

Sir William Church, when he explained to us in his evidence his views as to the whole transport of the sick and injured being placed in the hands of the Metropolitan Asylums Board, contemplated that payment would be made and a revenue would be derived from the transport of persons to or from private premises; we, of course, in our recommendation are not dealing with this aspect of the question of ambulance provision, but only with the question of ambulance provision for "street cases."

Church, 3266.

104. Although we think that some such scheme as that outlined above offers the best prospect of introducing the use of rapid ambulances with economy and efficiency, we see no reason why both the police and the public should not make use, when it seems desirable, of any available ambulances of a satisfactory character other than those belonging to the Metropolitan Asylums Board.

Use of other available ambulances.

105. It has been urged that there are a number of ambulances belonging to Boards of Guardians which might as occasion arises do useful work in "street cases." This was strongly advocated by Mr. Lyon, then Chairman of the Ambulance Committee of the Metropolitan Asylums Board, also Chairman of the Highways Committee of the Westminster City Council and Guardian of the Poor of the Westminster Union. Mr. Lyon said:—

Guardians' Ambulances.

Out of the 31 Unions you will see that 26 admit having horse ambulances. We were unable to get replies from one or two, such as Poplar, and so on. They have between them 43 horse ambulances. . . . The fact of the matter is that these Poor Law Unions have ambulances always ready. They require them for their own cases, and it is quite possible for them to spare an ambulance, practically at any time.

Lyon 617.

We may take it that London is unique with regard to all other cities in possessing this enormous body of ambulances spread all over the town, and which simply require a little organisation to render them available at any time. I have every reason to believe that the Guardians would willingly undertake the work if they were just shown how to arrange it. I believe that it will be found, when once the thing is set on foot, that it will work almost automatically. It is the question of provision of an extra telephone bell, somebody to take the place of the coachman on Sunday, when he is on leave (probably a porter might drive), a duplicate set of keys, and small things of that sort, which want adjusting and looking into. Until we have utilised to the full all the available ambulance services, we are not justified in spending money—until we have ascertained what are the *lacunæ* that want filling up in the existing services.

617.

At present there is a legal difficulty in the way of using these ambulances for this purpose, except in cases of emergency. Dr. Downes, Senior Medical Inspector for Poor Law purposes of the Local Government Board, points out that there "has never been any objection raised on the part of the Local Government Board to the casual use of the Guardians' ambulances" for urgent non-pauper cases. But it is plain that if these ambulances were to be made available in any systematic way for non-pauper "street cases," legislative sanction would be necessary. We think power should be given to Boards of Guardians in any part of the Metropolitan Police District to agree with the Commissioner of Police for the use of their ambulances for "street cases" upon such terms as are reasonable, including the payment, if any, to be made out of the Police Fund for the use of the ambulances.

Downes, 2908-2914.

106. Rapid ambulances have also from time to time been offered to the police by private donors. The Commissioner mentioned a recent instance of private liberality of this kind. We see no reason why an offer of this kind should not be accepted. It might be specially valuable in the case of a suburban district.

Ambulances provided by private donors.

V.—CONCLUSIONS AND RECOMMENDATIONS.

We have now to summarise the principal conclusions we have drawn from the evidence which has been laid before us, and to state the practical recommendations which

we desire to make with regard to the method of dealing with "street cases." These have to some extent been already indicated.

Conclusion
as to the
existing system.

107. We think that it has been abundantly shown that the present system is gravely defective, and results in much preventible detriment and suffering by reason of the transport by unsuitable means of persons who have been injured or taken ill in the streets or other public places, and that the real evil arises from the great use which is made of ordinary vehicles such as cabs and vans even in serious cases which require the transport of the patient by the best means possible. We do not regard the wheeled litter as an ideal means of transport for "street cases," but it is highly serviceable and, apart from the question of speed in cases of the greatest urgency, fairly meets the requirements for safe, if not altogether comfortable transport in most classes of cases. We have no hesitation in saying that, for the reasons which we have already fully explained, we regard a well constructed and properly fitted rapid ambulance (horsed or motor) as a superior means of transport to the wheeled litter, and we should welcome, if practicable, the complete supersession of all other modes of conveyance by the rapid ambulance. Having regard, however, to considerations of expense, direct and indirect, we are not prepared to recommend that, in the first instance, there should be entire supersession of the wheeled litter by a complete system of rapid ambulances, but consider that the wheeled litter service should be retained, subject to any improvements of the type of litter that may be possible and, if necessary, additions to their number, and that the existing means of transport of "street cases" should be supplemented by the introduction and organisation of a sufficient number of rapid ambulances to deal with the more serious cases. We think that the introduction of rapid ambulances must in the first instance be tentative and experimental, but should be organised on lines which would enable the system to be extended so as to be capable of dealing with urgent cases other than "street cases."

Wheeled Litters
to be supple-
mented by rapid
Ambulances.

Provided by the
Metropolitan
Asylum Board.
Pars. 95-97.

Par. 13.

108. Under the circumstances at present prevailing in the Metropolis we think the most efficient and economical system would be found in an extension of the non-infectious service of rapid ambulances which has been initiated by the Metropolitan Asylums Board. So far as relates to "street cases" this service should be worked in close co-operation with the Metropolitan Police. We do not recommend any alterations in or interference with the existing and contemplated system of rapid ambulances in the City of London. We recommend, therefore, that the Metropolitan Asylums Board should be authorised by Act of Parliament to apply their funds to the establishment of a service of non-infectious ambulances for the transport of "street cases," and to enter into agreements and generally to co-operate with the Metropolitan Police for this purpose. As we have already pointed out, special provision will be necessary with regard to the portions of the Metropolitan Police District which are outside the Metropolitan Asylums Board area. To avoid misconception we add that we do not mean to recommend that such powers should be limited to "street cases," but we have no directions in the terms of our reference to make recommendations as to the transport of cases other than "street cases."

109. If at any time the functions of the Metropolitan Asylums Board as an ambulance authority were to be taken over by the London County Council or any other authority, our recommendations would apply, *mutatis mutandis*, to such authority.

110. The main points upon which it is desirable that the Metropolitan Asylums Board and the police should co-operate for the purpose of dealing with "street cases" appear to be the following:—

First, as to stations for rapid ambulances for "street cases."

Stations for Rapid
Ambulances.
Mann, 3692-6.

We think that, so far as regards the Metropolis (meaning the County of London), the object to be aimed at is the establishment of a sufficient number of small stations throughout the Metropolis at which one or more rapid ambulances should be stationed. The number and situation of these stations should be settled by agreement between the Metropolitan Asylums Board and the Commissioner of Police, subject to the approval of the Home Secretary and the Local Government Board. Compulsory powers for the acquisition of sites should be given. In selecting the sites for these stations regard should be had to the following considerations:—

- (1) The number of accidents habitually occurring in the neighbourhood.
- (2) The probable distances between the scene of the accidents and the nearest available hospital.
- (3) The extent to which the locality is at present effectively served with wheeled litters.

- (4) The proximity of the ambulance station to the police station, for a reason hereafter stated. Par. 113.

We think, as above stated, that the introduction of the rapid ambulance should be regarded as at first tentative and experimental, the ambulance provision being gradually extended as its utility and efficiency are established.

111. With regard to the equipment of the stations, we think for the reasons indicated in paragraph 68 that the stations will in all probability be required for motor rather than for horsed vehicles, but no rigid rule should, for the present at all events, be laid down as regard the number of motor or horsed vehicles respectively; this should be settled in the light of experience. Type of vehicle.

112. If, as we anticipate, the more serious "street cases" are mainly dealt with by rapid ambulances placed in these new small stations, we think the objection to the use of the ambulances of the Metropolitan Asylums Board on the ground of the supposed danger of infection would be to a great extent, if not entirely met. There would still remain the necessity of the entire separation of the ambulances and staffs at the central stations. We think that it would be necessary that the arrangements for this separation should be subject to the approval of some Public Department, and assuming that this matter remains under the control of the Asylums Board we think the authority should be the Local Government Board. Separation from infectious service of Metropolitan Asylums Board. Pars. 98, 99.

113. The next point is the staffing of the ambulance stations. Staff at street ambulance stations.

The conclusion at which we have arrived is that it is desirable that the ambulance should be accompanied by a person who has had the amount of training which is evidenced by a certificate of the London County Council or the St. John Ambulance Association; but the question as to what should be the status of this individual is one of considerable difficulty.

Mr. Mann, the Clerk to the Metropolitan Asylums Board, contends with great force that the attendant must, while he is acting in that capacity at an ambulance station provided by the Metropolitan Asylums Board, himself be subject to the orders and to the discipline of the Metropolitan Asylums Board. This, as the Commissioner of Police points out, would preclude the possibility of the attendant being an officer of the Metropolitan Police Force, as has been suggested by some witnesses. It is an essential principle in the organisation of that force that a police constable must always, even when he is charged with a special duty outside the run of his ordinary duties, remain under the sole discipline of the Commissioner. This appears, therefore, to be a fatal objection to the suggestion that the attendant at an ambulance station, whether one of the existing stations or one of the contemplated new small stations, should be a police officer. On the other hand we see great advantages in the ambulance being accompanied to the scene of the casualty by a police officer of special proficiency in First Aid work, rather than by a servant of the Metropolitan Asylums Board unattached to the police: we think that it is desirable that the police, who have the first responsibility for the safety of the patient on the happening of the casualty, should have the responsibility throughout, and that any division of responsibility such as there would have to be if the important function of attendance on the patient in the course of the journey were placed in the hands of the servant of another authority is to be deprecated, as raising the possibility of friction and inefficiency in the working of the system. Mann, 3717-3730.

We think, therefore, that arrangements should if possible be made for a trained officer of police to accompany the rapid ambulance. We cannot but think that some arrangement for this purpose ought to be possible. We appreciate the difficulties above referred to in the way of keeping a specially qualified police officer at an ambulance station. The Commissioner appeared to think that it might be possible to send with the ambulance one of the officers in reserve at the police station. If the ambulance station were in close proximity to the police station, as we think is desirable, such an arrangement would seem to be possible. The ambulance when summoned might call for the police officer, just as in Boston or New York it calls at the hospital for the medical man and attendant. The officer would, on arrival at the scene of the accident, do anything in the way of First Aid which he might consider necessary and take charge of the patient until arrival at the hospital. Except so far as regards any purely police purposes, we think that in the majority of cases it would probably be unnecessary for the constable in the street to accompany the patient to the hospital, but this might be left to the discretion of the officer arriving with the ambulance. We would also draw attention to the view which we have already expressed in paragraph 81 with regard to female attendants. Henry, 101, 3911-5, 4035-7. Henry, 3894-8.

If this arrangement which we suggest were carried out it would be possible, so far as regards the "street case" work, for one person only to be in attendance at a station where only one ambulance was kept. The same person might receive the summons over the telephone from the central office and act as driver (or chauffeur) of the ambulance. His absence from the station with the ambulance would be no obstacle to this arrangement, as it would be known at the central office when the ambulance was out, and if another ambulance were wanted in the same neighbourhood an ambulance would be sent from another station. There would possibly be disadvantages from the point of view of discipline in having only one man at the ambulance station, but there should not be much difficulty in making a good selection of men for the post, so that the difficulty would probably not be serious.

It should be borne in mind that we are here dealing only with the arrangements in regard to "street cases": if the transport of private cases were in the hands of the Metropolitan Asylums Board it is possible that attendants would have to be provided for those cases.

Signalling.

114. The next point is the mode of summoning the rapid ambulance.

Mann, 3700-3.

It is an essential element in a rapid ambulance system that the best available telephonic communication should be adopted between the scene of the casualty and the ambulance authority. This, in the scheme which we are considering, would be to a central call office which, under the arrangement we suggest, would naturally be the central office of the Metropolitan Asylums Board.

Mann, 965,
3697-3705.

Pars. 13, 64.

Mann, 3711.

Means of telephonic communication between the Central Office of the Metropolitan Asylums Board and their existing ambulance stations are at present by private wire and are very efficient. It would be comparatively easy to extend the private wires to any new stations which might be established. The difficulty lies in devising the most efficient means of communication between the constable or other person at the place of the accident and the Central Office. There seem to be two alternatives. Either the constable on the spot must avail himself of the nearest available telephone, whether private or public, or some special means of signalling must be provided, as has been done in the City of London. We do not feel able to recommend that a system on the lines of that established in the City of London be extended to the whole County of London, owing to the great cost which it would involve. It has, however, been suggested that call boxes should be placed "in some of the busiest thoroughfares and at the most awkward crossings." We think this suggestion well worthy of consideration. It would, at all events, be a most useful experiment and, if successful, might be largely extended. Except to this extent we do not feel able to recommend the adoption of a system of call boxes on the model of those in the City of London.

Use of Ordinary Telephones.

Mann, 3702-3818

115. Unless and until a complete system of signalling by means of call boxes is established it may well be that the best means of signalling may vary in different localities. The main object is to get the summons for the rapid ambulance to the Central Office with the least possible delay. In some cases the quickest way may be to communicate direct with the ambulance station itself, in others to send the summons through the police station, in others by means of some public or private telephone. The instructions given to the constables on duty will vary according to the facilities existing in different localities. It is probably desirable that, as is the case in Manchester, arrangements should be made with owners of private telephones for their use on an emergency. It appears that the Post Office authorities are willing in every possible way to expedite the transmission of telephonic messages for ambulance purposes.

Functions of Police.

116. We come now to the serious question of the mode of dealing on the spot with the victim of accident or sudden illness in streets or public places: in other words, what should be the functions and duties of the constable on the spot. We think the evidence given before us justifies the following conclusions:—

Par. 119.

- (1) That though the police constable cannot be expected to ascertain the exact nature of the injury sustained, he can tell, generally speaking, what part of the body is injured and whether the injury is presumably of a serious character.
- (2) That general rules can be laid down to enable the constable to determine whether the case is one in which the patient should be conveyed to hospital in a recumbent position.
- (3) That in many of the more serious cases, *e.g.*, of hæmorrhage or fracture of the lower limbs, it is necessary in the Metropolitan Police District that First Aid should be administered before the arrival of the wheeled litter or ambulance.

- (4) That on the whole the evidence justifies the conclusion stated by Sir William Church as to the experience gained at St. Bartholomew's Hospital, to the effect that "the First Aid administered by the City Police is excellent, that by the Metropolitan Police is not bad, but not so good as that of the City Police."

117. We think, therefore, that the changes needed lie in the direction of improving the training and practical knowledge of the general body of Metropolitan Police constables so as to fit them, so far as possible, for the new responsibilities which must accompany the introduction of a system of rapid ambulances, rather than in diminishing the duties which at present are cast upon them, and which, in our opinion, the evidence establishes that they discharge, on the whole, in a satisfactory manner.

First Aid training of Police.

Pars. 28-30.

We have already referred to the training which the Metropolitan Police recruits receive before definitely joining the force, and we are of opinion that it is on the right lines. But we agree with the Chief Surgeon that it would be desirable that more police should, in addition to this instruction, attend the more advanced courses of instruction under the London County Council or St. John Ambulance Association. We think it would be well, if possible, to arrange for a special course designed to instruct police in the special requirements which experience shows are likely to be needed in a rapid ambulance service. These requirements include the lifting and carrying of the patient, the skilful improvisation of appliances and generally doing what is absolutely necessary for the safety, and, as far as possible, for the comfort of the patient. We agree with those witnesses who emphasise the importance of not attempting more in the way of diagnosis or treatment than is absolutely necessary, and the limits of what may prudently be attempted should form an important part of the instruction given to the police.

Dent, 3392.

Pars. 71-79.

We recommend, therefore, that arrangements should be made to secure that, as far as is possible consistently with the requirements of the service, all police officers should attend the advanced courses of instruction as part of their regular discipline.

118. With regard to the police instructions relating to accidents, contained in the Police Orders, the Metropolitan Police "Pocket Directory" and "Duty Hints," we think that it would be desirable that these instructions should be revised in consultation with the Chief Surgeon. The Orders appear to embody some provisions contained in earlier Orders which are not quite appropriate at the present time. For instance, there is an apparent inconsistency between the first two of the paragraphs in the Order of February 4th, 1908, with regard to the duty of the police as to calling in the divisional surgeon or local doctor. Moreover, in view of the recommendations which we are making we think that the summons of the local doctor in cases of street accidents will be seldom required. We think, too, that the paragraphs relating to accidents in the "Pocket Directory" and "Duty Hints" should be referred to the Chief Surgeon to recommend amendments. Some defects were pointed out in the course of the examination of Mr. Clinton Dent (see Questions 3523-3532). It will also be seen from Dr. Downes's evidence that eight of the institutions included in the list, which was handed in by the Commissioner of Police and is given in Appendix V., of "Hospitals and Infirmaries within the Metropolitan Police District to which cases of Injury or Sudden Illness in the Streets may be taken by the Police," are really not Infirmaries but Workhouses, which would not have a resident doctor, and which Dr. Downes would "not regard as places specially equipped for dealing with such cases."

Police Orders and Instructions.
Pars. 25-27.

Dent 3523-3532.
Downes, 2946-2953.

2953.

119. The importance of improving the training of Police constables for rendering First Aid under the circumstances which usually attend street casualties is emphasised when the nature of the matters which a constable has to decide on the spur of the moment are considered. He has, in the first place, to determine whether or not it is a case for sending for the ambulance or wheeled litter. Where, as will probably for some time be the case, there is a choice between different vehicles, he may be guided to some extent by rules. The rules would assist him in deciding whether the patient can with reasonable safety be sent off in a cab or whether the constable must use his influence to induce him to await the wheeled litter or rapid ambulance. Rules on the lines suggested by Mr. Bryant would assist him on this question. If it is a case for a wheeled litter or a rapid ambulance and both are available, which is the constable to send for? This depends to a great extent on the distance the patient will have to be conveyed to the hospital, and the time within which the ambulance or wheeled litter can be obtained. These conditions can to some extent be made the subject of instructions, having regard to the known distances and means of communication between the places where accidents are most likely to occur and the ambulance station

Discretion of Police.

Appendix XIV.

on the one hand and the hospital on the other. On the whole, we agree with the witnesses who have expressed the view that the choice of the vehicle may, subject to such special instructions, be left to the police constable. Indeed, so long as there are different sorts of vehicles available we see no other course possible, but it may be that, in course of time, the rapid ambulance will, except perhaps in cases where the distances are very short, become the general method of conveyance of serious cases.

120. Our recommendations which would involve new legislation may be briefly summed up as follows :—

Suggested Points
for Legislation.
Par. 108.

1. That the Metropolitan Asylums Board should be empowered by Act of Parliament to establish and maintain a non-infectious service of rapid ambulances available for dealing with the conveyance of persons suffering from accident or sudden illness occurring in streets or public places within the Metropolis.

Pars. 98, 99, 112.

2. That for this purpose, and especially with the view to a complete separation of the non-infectious service of ambulances from the ambulances used for the conveyance of infectious cases, the Local Government Board should be empowered to frame regulations.

3. That the Metropolitan Asylums Board should, subject to such regulations, if any, as aforesaid, be empowered to enter into agreements with the Commissioner of Police, subject to the approval of the Secretary of State for the Home Department and Local Government Board, in respect of the following matters :—

(1) The number, position, size and equipment of any new ambulance stations for the purpose of dealing with "street cases."

(2) The staff required for the service of the ambulances for the purpose aforesaid.

(3) The provision of the requisite signalling apparatus, and generally with reference to any matter necessary or incidental to the effective service of the ambulances.

Par. 102.

(4) The use of the non-infectious ambulances of the Metropolitan Asylums Board for cases of accident or sudden illness occurring in the streets or public places within the Metropolitan Police District but outside the County of London, on such terms as may be agreed on, including (if so agreed) a reasonable payment to the Metropolitan Asylums Board out of the Metropolitan Police Fund for the use of the ambulances for the purposes aforesaid and for any expenses connected therewith.

4. That the necessary powers should be given to acquire compulsorily any sites for stations or signalling apparatus required for the purpose of the ambulance service.

Pars. 101, 103.

5. That the cost of and incidental to the provision and maintenance of the stations and their equipment, except in reference to any police officers who may be employed in or about such ambulance service, and except so far as regards the adjustment for those portions of the Metropolitan Police District which are outside the County of London, be borne by the Metropolitan Asylums Board, and no payment in respect of the use of the said ambulances shall be required from or on behalf of any person suffering from accident or sudden illness occurring in streets or public places.

Par. 105.

6. That the Guardians of the Poor of any Union within the Metropolitan Police District be empowered, with the consent of the Local Government Board, to enter into an agreement with the Commissioner of Police, subject to approval as aforesaid, for the use of any rapid ambulance belonging to such Guardians for the conveyance of persons suffering from accident or sudden illness in streets or public places on such terms as may be agreed on, including, if so agreed, a reasonable payment from the Metropolitan Police Fund for the use of the ambulance.

The administrative action which we suggest in order to carry out the organisation which we recommend appears sufficiently in the last section of our Report.

In conclusion we desire to express our sense of obligation for the assiduous and most valuable services rendered to the Committee by our Secretary, Mr. A. L. Dixon, often under heavy pressure of other duties.

A. L. DIXON (*Secretary*).

1st March, 1909.

KENELM E. DIGBY (*Chairman*).

STAMFORD.

WILLIAM J. COLLINS. *

* Subject to the Memorandum attached.

MEMORANDUM BY SIR WILLIAM COLLINS.

I regret that I am unable to agree with paragraphs 99, 104, 108, 113 and 120, and that I dissent from some of the statements contained in paragraphs 66, 83, 91, 97, 100-102, 105, 107, 110, 112-114, 116, 117 and 119.

I have appended my signature to the Report—in the preparation of which I have endeavoured to bear my part—because, though I differ from many of the recommendations of my colleagues, and consider the references to the circumstances which led to, and the proposals which preceded, the appointment of this Committee need amplification, I am in accord with them as to the grave deficiency of the present arrangements for dealing with accidents and illness in streets and public places in the Metropolis, as disclosed by our investigations.

Moreover, I do not desire that any difference of opinion as to the body which should be authorised to establish an improved ambulance service for London should in any way prejudice or impede the prompt inauguration of such service which has, in my opinion, been too long delayed.

As to the urgent necessity for reform, the Report in no degree overstates the case. It establishes the fact that notwithstanding the police policy of extending the provision of wheel-litters, especially in recent years, 60 per cent. of all cases of injured or sick persons conveyed to hospital in London are brought otherwise than by ambulance or litter. The figures show that in more than one-fourth of such cases definite fault is found with the mode of conveyance, that even in serious cases more than one-third of the sufferers are conveyed by means likely to be prejudicial, that the unsuitable cab is still largely requisitioned, and that actual harm is in one out of three of the more serious cases attributed to its use.

Henry, 104, 139,
4032-3.

Par. 24, 56-58.

The fact that the police returns disclose an increase of no less than 62 per cent. of street accidents in London in the last three years serves to accentuate the urgency of speedy and adequate reform of the present system or want of system.

Our investigations have, in my opinion, confirmed the views of those who maintain that the provision at present made for dealing with cases of accident and sudden illness in streets and public places in the Metropolis is not only out-of-date but seriously defective, and that by reason of the almost entire absence (outside the City) of a rapid ambulance service, and the consequent unsuitability of the means of removal of the sufferers often employed, their condition is not unfrequently seriously prejudiced.

James, 778, 814.
Collie, 1713-1724.
Morris, 3196-
3200.

Par. 107.

It may be laid down as a general rule that a sick or injured person too ill to walk should be removed in the recumbent position, and nearly all the witnesses agreed that where a patient should be removed in the recumbent position a rapid ambulance is, for various reasons, preferable to any other mode of conveyance. Moreover, the Committee is unanimous in thinking that given an effective system of signalling there would be considerable saving of time in thus removing the patient, and that "it has been established that in cases of grave accident or of sudden and serious illness occurring in the streets or other public places, removal by rapid ambulance to hospital or elsewhere is the most appropriate method of conveyance."

Woods, 2219.
Par. 61.
Par. 69.

Par. 87.

The establishment of the electro-motor ambulance (summonable by street telephone calls) in the City of London, since May, 1907, has served as an object lesson to London, and has exhibited the practical and successful working of a rapid ambulance service in the very heart of the Metropolis, that is to say, in a district where the efficiency of such service can be most effectively tested.

Nott-Bower,
1045, 1088-1098,
1135-1138, 1162.

The Committee are of one opinion as to the "very satisfactory" working of the City electric ambulance; if the use of such conveyance was to be regarded as tentative and experimental a few years ago, it may be held to be a proved success to-day, and the saving alike in time and suffering to those conveyed by it was insisted on by all the witnesses who spoke from experience.

Par. 13.
Bowlby, 1490.
McDonagh, 2303.
Church, 3247.
Par. 69.

The Report shows that except in the City there is no special provision made for summoning even the wheeled litter. The use of the telephone for such purpose has not been considered necessary.

Par. 62.
Henry, 142.

The Committee are, however, agreed that "it is an essential element in a rapid ambulance system that the best available telephonic communication should be adopted between the scene of the casualty and the ambulance authority." Though my colleagues do not feel able to recommend the extension of the City system of street telephone call boxes,

Par. 114.

Mann, 3711-2. they approve, by way of experiment, the suggestion made in the later evidence of Mr. Mann who would have one at every awkward crossing and at such places as experience shows they are wanted. I regard the non-employment of the telephone for summoning an ambulance in London (without the City) as deplorable. Either the Liverpool method, based on the fire-alarm principle, or the Manchester practice of utilising private wires known to, and accessible to, the police would be preferable to the "haphazard" London mode of summons; but I cannot consider the City telephone boxes as experimental, or otherwise than as an almost essential and indeed a highly successful part of their service. Nor can I hesitate to recommend the extension of that system at once to the "accident areas," and later and further as experience and demand require.

Par. 85. I do not think too much weight can be attached to the advantages which would accrue both to the police and to the public by the institution of a recognised system of ambulance service, uniform, as far as practicable, throughout the County of London.

Clinton Dent, 3523-3548. The constable on the spot would be relieved of the perplexing variety of options and duties such as the most approved "Duty Hints" may set out. He would be directed simply to summon the ambulance and, pending its arrival, to guard and assist the sufferer. The public, on the other hand, by becoming familiarised with the working of an efficient rapid ambulance service, would know what to expect and would co-operate with, rather than embarrass, the constable.

Morris, 3138, 3179-3182.

Experience has shown that where such a system has been set up such results have followed; the cab, the van, the litter and other modes of conveyance have been largely, if not entirely, superseded, and there can be little doubt that the tendency will almost certainly be towards rendering uniform throughout the Metropolis, as far as and as soon as practicable, this more approved method of dealing with street casualties.

THE PROPOSALS OF THE LONDON COUNTY COUNCIL.

Par. 11. It will be remembered (as indicated in the Report) that the appointment of this Committee followed upon the rejection by the House of Lords of powers sought by the London County Council in the Session of 1906 to enable them to establish and maintain, or to contribute to the establishment and maintenance of, an ambulance service for street accidents in London. In the event of such powers being obtained, the Council had, as the outcome of an inquiry conducted in 1901-2, approved a tentative scheme for trial stations, in the areas where street casualties are most frequent, to be served by electric motor ambulances summoned by street telephone calls, after the manner since adopted in the City. The cost of this scheme was approximately stated as £5,200 for the first year.

Par. 107. The case as put before Parliament by the London County Council in 1906 as to the unsatisfactory and inadequate character of the present ambulance provision for street accidents has been abundantly confirmed by the fuller inquiry which this Committee has conducted, and especially by the valuable information which the hospital authorities have so courteously rendered.

The County Council is the only public body which has come to Parliament for powers to establish an ambulance service for cases of accident or illness in the streets or other public places in London, and the only authority having jurisdiction over the whole of London which has expressed its willingness to supply such service.

Unlike the City Corporation and many provincial towns which have introduced rapid ambulances as a municipal service in connection with their police or fire brigades, the London County Council, though willing, has been unable, without Parliamentary sanction, to set up an improved ambulance service for street cases.

Gomme, 1326. Henry, 114-131. It appears that the Council, before embarking on their inquiry in 1901, addressed themselves to the Commissioner of the Metropolitan Police with a view to ascertain the attitude of the police authorities on the question. They were informed that "so far as the police experience goes the necessity for horsed ambulances has not been established," and that although the police had three horsed ambulances they were "not very often used."

Gomme, 1271-4. Mann, 935. The Council also entered into communication with members of the Ambulance Committee of the Metropolitan Asylums Board and learnt that, while that Board were desirous of extending their service to the transport of private mental, medical and surgical cases, at a charge of 7s. 6d. per case, they did not contemplate dealing with street cases. By a resolution passed by the Board on November 28th, 1903, "the removal of cases of street accident" was specifically excluded from this proposed extension.

When the application of the County Council came before Committees of both Houses of Parliament the only formal opposition proceeded from the City Corporation, not, however, by way of objection to a rapid ambulance service, for they announced their intention of establishing one for themselves; and, in view of such contemplated establishment they claimed to be exempted from any charge in respect of the proposed service for the County of London. As was explained at the time, the powers sought by the Council would have enabled them to subsidise the City service.

Gomme, 1339, 1361-2.

1357-1359, 1371.

Mention should perhaps be made of a Report, dated March 26th, 1906, prepared by the Home Office, which was laid before the Committees of both Houses. This Report directed special attention to the existing services of the police and of the Asylums Board, the need of co-ordination and the undesirability of duplication, as well as to the necessity for providing for other than "street cases." It added that the police possessed three horsed ambulances which were "in constant use." These latter, though originally intended for "cases of illness or accident requiring removal to hospital," do not appear ever to have been used for street accidents, and in April, 1906, were condemned as "obsolete" or "unfit for use," the Commissioner then approaching the Asylums Board with a view to obtaining the use of their ambulances.

Gomme, 1311-1319, 1341.

Henry, 123-131.

Mann, 946, 3760-1.

It appears that the Commons' Committee passed the ambulance clauses unanimously, and the Bill containing them went through all its stages in the House of Commons.

Gomme, 1338, 1343.

The House of Lords' Committee, through their Chairman (Lord Camperdown), expressed themselves satisfied with the medical evidence as to the desirability of establishing a good ambulance service, and declined further witnesses on that point. Having heard evidence on the financial aspect of the tentative scheme the Committee, after deliberation, announced that the ambulance clauses would be struck out.

1345-7.

On July 16th, 1906, a debate took place on the Third Reading of the General Powers Bill of the London County Council, in the House of Lords, when a proposal was made to reinstate the ambulance clauses. General agreement was expressed as to the desirability of an efficient ambulance service for London, and the noble Chairman of the Committee (Lord Camperdown) explained the reasons for striking out these clauses. He stated that the Home Office were opposed to the scheme and were suggesting a consultation with the Council, but the chief objections appeared to be that the County Council could give no exact estimate of the cost of the proposed stations, nor, indeed, any estimate of the ultimate cost of a complete scheme.

Parly. Debates, Vol. 160, pp. 1243-1259.

1348-9, 1351-4.

Lord Beauchamp, representing the Home Office, stated that the Secretary of State was summoning "a conference of the three bodies concerned—the London County Council, the Metropolitan Police, and the Home Office—to consider what should be done to improve the present condition of the ambulance service," and the amendment was accordingly withdrawn.

THE CASE FOR REFORM.

The case for reform of the present seriously defective provision—as laid before the County Council eight years ago, and before Parliament two and a half years ago, will be found to be fully corroborated by the evidence received by this Committee.

Par. 107.

The question of utilising existing services and co-ordinating them has been carefully gone into, and on the difficult problem of the most appropriate authority to undertake the work I regret to find myself in disagreement with my colleagues.

In regard to the question of finance, upon which the proposals of the London County Council appear to have been wrecked in the House of Lords, it is clear that notwithstanding the exhaustive investigations conducted by this Committee it is no more possible even now to furnish an estimate of the ultimate cost of an adequate provision for London than it was for the witnesses who appeared on behalf of the County Council before the Lords' Committee in 1906 to do so. The first year's working of the City motor ambulance service (excluding £600 for the ambulance and generator) was estimated to cost £1,540, and actually cost £1,217 9s. 2d. The annual cost of maintenance, after the first year, of the County Council's two trial stations was estimated to be just under £3,000. From these figures it may perhaps be inferred that an outside estimate for maintaining a self-contained electro-motor ambulance station serving a district of one or two miles radius would be about £1,500 per annum.

Par. 100.

App. XI.

As the Finance Committee of the County Council justly pointed out, the Councils of the Metropolitan Boroughs (several of which urged the County Council to undertake this service), would probably be unwilling for long to contribute towards the cost of a

Gomme,
1263, 1304.

service restricted to the area of the two trial stations which were proposed, but would soon demand the extension of the service to the whole County.

I cannot myself, in view of the accumulated evidence on the subject, any longer regard the rapid ambulance service as a case for merely tentative and experimental trial in London. The metropolis, it is shown, now lags behind many provincial towns and the chief cities of the Continent and America in the due provision of this elementary municipal necessity; while the proved success of the City service forbids the notion that similar provision in other parts of London would not prove a similar boon to unfortunate victims of street accident or illness in those districts.

I think that the necessary expenditure must be boldly and frankly faced, and indeed such estimates as are available do not foreshadow an expenditure of such magnitude as should deter the metropolis of the empire from charging the rates with so necessary a municipal service.

Pars. 107, 114.

The Report, while recognising the superiority of the rapid ambulance system and recommending its introduction into the metropolis, yet shrinks from advocating its general adoption, counsels the use of the rapid ambulance tentatively and as a supplement to wheeled litters, and suggests the use of telephone call boxes merely as an experiment.

Pars. 65, 85.

In my opinion the evidence justifies a bolder pronouncement and proves that wherever the rapid service has been provided its advantages have been quickly appreciated, and that there has been no disposition to revert to wheel-litters or to "haphazard" methods of summoning the vehicle.

THE AMBULANCE AUTHORITY.

Henry, 4009,
4028-4033.
Par. 91.

As to the question of the authority to deal with an improved service, the Report decides for the Metropolitan Asylums Board. There is much to be said for the Police undertaking the duty. If the Metropolitan Police were a municipal force as in the City and the provinces there can be little doubt that the duty would fall to them. As it is, there appears to be no disposition on their part to undertake it and my colleagues consider it undesirable for various reasons to assign this additional work to them.

Mann, 980,
3745-6.

On the other hand, I fail to appreciate the grounds of policy, administrative efficiency, or economy which would justify the imposition of this duty, for which they have never asked, upon the Metropolitan Asylums Board. Such a proposal is open to the following among other objections:—

Mann, 3853.
Rec. xvi. p. 360
Report R. C. on
Feeble Minded
P. 610, par. 41.
Report R.C. on
Poor Laws.

- (1) It would confer new rating powers upon a body composed only of indirectly elected and nominated members in opposition to the tendency of recent legislation dealing with the municipal government of London.
- (2) The Metropolitan Asylums Board was originally constituted as, and is still, for the most part, a poor law authority to deal with Metropolitan poor law administration. It was established at a time when no central municipal authority such as the County Council was in existence. Its survival at the present time is without parallel outside London and recommendations have been made (as in the case of the Royal Commissions on Poor Laws and on the Feeble Minded) to transfer and reduce rather than to increase its powers. With the transfer of the Schools and Asylums the Board's non-infectious ambulance service would be severed altogether from its infectious service.
- (3) The City, which has already provided an ambulance service of its own, would in the ordinary way be rated for the Metropolitan service of the Asylums Board. If on the other hand the City were specially exempted from such rating the complication of a double county account would be introduced in the case of the Board similar to that which has caused so much difficulty in the case of the County Council. The City members would presumably be precluded from voting on such questions.
- (4) The joint action proposed in the Report between the Metropolitan Asylums Board and the Police, unnecessarily complicates the question of control, and brings in the two Government Departments, viz., the Home Office and the Local Government Board to deal with a service which in provincial towns is dealt with municipally and without recourse to any Government Department.

Moreover, the notion that economy would result from imposing these new ambulance duties upon the Asylums Board will, on examination, I think, prove to be illusory.

Such notion appears to have been based on the assumption that in some way or other the existing stations of the Board, which cost some £120,000, together with their plant and staff, could in the main be made to serve the purposes of the street service, and on the further assumption that the charges made by them for "non-street cases" would largely cover the cost of the street service. Unfortunately, neither assumption is well-founded. The report shows that it will be impracticable to make a charge for the use of the ambulance for "street cases"; it may also be doubted whether any considerable sum will be recoverable for the removal of poor persons from their homes to hospitals. Far more important, however, is the fact that while the Asylums Board stations are admirably situated for the infectious service, which is so satisfactorily rendered, they are, by reason of their disposition mainly in the outer zone of London, ill-arranged for the purposes of a "street" service.

It was insisted by Mr. Mann, the able Clerk to the Board, that in the event of this unsolicited duty being cast upon the Managers, it would be necessary, even if their existing stations were utilised at all, to establish not fewer than ten additional self-contained stations, somewhat after the model of the City station, in the central parts of London.

Moreover, it is regarded as imperative that if the Board's existing infectious stations are utilised at all there must be absolute and complete physical separation both of *matériel* and *personnel* between the infectious and the street services. It is further admitted that the greater portion of the new street service would, in all probability, be performed by the new centrally situated self-contained stations which must be provided. It therefore appears to be incurring uncalled for risk and introducing unnecessary complication, with little if any saving of expenditure, to set up any of the "street" ambulance stations on the sites at present occupied by the infectious services of the Asylums Board. Several witnesses have suggested that the public would, out of fear of infection, view with distrust the organisation of the street service as part of the work of that Board. Such apprehension and antipathy of the public, even though in excess of actual risk incurred, might certainly militate against such utilisation of the stations, plant, or staff of the Asylums Board; while during the pressure of an epidemic any actual risk might be seriously intensified. The indiscriminate use of the same ambulances for infectious and non-infectious work, accompanied by disinfection after every usage, though as the Report shows practised in Paris and Berlin, is a less satisfactory precedent to follow than that of Manchester and Liverpool, where the two services are kept absolutely separate though controlled by two departments of the same municipal authority.

A not unimportant detail in this connection is that the equipment required for infectious cases and "street cases" respectively, according to Mr. Mann, is different, at any rate at the present time. While the horsed ambulances (possibly supplemented by petrol vehicles) satisfactorily answer, according to Mr. Mann, the purpose of the infectious service, he recommends the use of electric motor ambulances as ideal for the street service.

Lastly, the Metropolitan Asylums Board, if constituted the ambulance authority, would apparently not have, as the London County Council has, sites or buildings ready at hand in the centre of London for the new street stations required. As has been explained the size of such sites and buildings would be much smaller and less expensive in the cases of motor than of horsed ambulances.

THE AMBULANCE STAFF.

As regards the staffing of the ambulance service I agree with Sir Edward Henry and Mr. Mann that it would be essential for discipline that those engaged in the work should not be under divided jurisdiction, and I think the arrangements [proposed in paragraph 113 of the Report for officers of the Asylums Board and of the police to be jointly engaged in accompanying the ambulance would be needlessly cumbrous. If the police are not, as in the case of the City, to undertake the whole work I would let the duties of the police begin and end with summoning the ambulance and handing the sufferer over to the ambulance attendants. It is none the less desirable that all constables should be trained and periodically examined in First Aid on the lines of the London County Council syllabus. In view of their constant presence in the streets and public places such resourcefulness in case of immediate necessity should be instilled into every constable, even though under an efficient service of rapid ambulances the duty of the constable on the spot would seldom amount to more than guarding the patient and summoning the ambulance. He need not, unless for police purposes, accompany the patient to hospital.

Mann, 3786-3790, 3837-8.

Church, 3266.

Par. 103.

Morris, 3151.

Mann, 3793.

Mann, 3693, 3797-8.

Mann, 3714, 3819-3821.
Pars. 98, 99, 112.
Mann, 3692-3, 3722-3, 3812-3.

Nott-Bower, 1130.
Collie, 1764-5, 1795.
Downes, 2985-2990.
Morris, 3147.
Henry, 3901.

Par. 99.
App. ix.
App. vi vii.

Mann, 3782-5.

Gomme, 1303.

Par. 68.

Henry, 101.
3911-5, 3984-6.
Mann, 3717-3720, 3843-6.

Par. 113

The ambulance staff should then, in my opinion, be wholly under the one ambulance authority, and should be responsible for the care of the patient from the handing over by the constable or other person at the site of the accident to delivering him up at the hospital.

Both chauffeur and attendant, who would be constantly on duty by suitable arrangements of shifts, should have obtained, over and above First Aid training, special instruction and experience in the lifting and handling of sick and injured persons. The fewer the hands, compatible of course with adequate service, that are actually engaged in lifting and transporting the injured to hospital the better. Experience in such work counts for so much, and instruction followed by rare and occasional practice counts for so little, that I am sure the object to aim at should be not to regard it as the possible duty of any and every constable to convey the injured to hospital, but to secure the services of a limited, though sufficient, number of specially trained attendants (not necessarily constables) to staff the several stations of the contemplated rapid service. The whole of such staff should be under the undivided control and discipline of the ambulance authority.

CONCLUSION.

As to the body to be entrusted with the organisation of what is practically a new service in London, I am of opinion that, having set aside the Police as the authority, the duty should be entrusted to the London County Council, who have sought powers and evolved a scheme for the purpose, rather than to the Metropolitan Asylums Board who have not.

Par 91.

Such new municipal duties involving new rating powers should, in my judgment, be a function of the central directly-elected municipal authority of London. The reasons for this view have become abundantly clear in the course of this Memorandum ; and, while anxious that no difference of opinion on the question of the authority should prejudice the early establishment of this sadly needed service, I believe that efficiency and economy would alike be served by procedure upon the lines which I have ventured to indicate.

WILLIAM J. COLLINS.

1st March, 1909.

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APPENDIX I.

RETURNS furnished by London Hospitals of Cases of Accident and Sudden Illness occurring in streets or other public places in which the sufferers were conveyed by some means to Hospital.

Table (A).—Specimen of the Form of Inquiry furnished to the Hospitals; with a specimen set of replies.

Table (B).—Tabulated Replies from the following Hospitals, giving particulars of the cases, together **with opinions** as to the efficiency of the mode of conveyance and treatment:—

NAME OF HOSPITAL.	PAGE	NAME OF HOSPITAL.	PAGE
Charing Cross	56	Prince of Wales's General (Tottenham)	72
Great Northern Central	68	Royal Free	62
(See also Table (C).)		St. Bartholomew's	44
Guy's	47	St. George's	66
London	50	(See also Table (C).)	
Metropolitan	70	St. Mary's	54
Middlesex	60	University College	64
Poplar	65	West Ham and East London	74
(See also Table (C).)		West London	58

Table (C).—Tabulated Replies from the following Hospitals, giving particulars of the cases, but **without opinions** as to the efficiency of the mode of conveyance and treatment:—

NAME OF HOSPITAL.	PAGE	NAME OF HOSPITAL.	PAGE
Great Northern Central	80	St. George's	78
(See also Table (B).)		(See also Table (B).)	
King's College	79	St. Thomas's	75
London Temperance	81	Westminster	76
Poplar	77		
(See also Table (B).)			

NOTES.

Column 3.—The cases have been classified, so far as possible, according to the nature of the injury or illness, under six heads, the principle being as follows:—

CLASS I.—*Minor Injuries.*—Including the slighter cuts, bruises, &c.

CLASS II.—*Illness.*—Including fits, poisoning, alcoholism, and seizures with acute illness.

CLASS III.—*Wounds, Hemorrhage, &c.*—Including also bites, burns, and severe bruising of limbs.

CLASS IV.—*Head and Internal Injuries, and Shock, Concussion, &c.*—Including also the more serious body injuries generally.

CLASS V.—*Fracture, Dislocation, &c., of Upper Limbs.*

CLASS VI.—*Fracture, Dislocation, Crushing, &c., of Lower Limbs.*

Column 6.—“Police”: The fact whether the case came under the cognizance of the Police or not has, in the cases in Table (B), been ascertained by the Police from their records; in Table (C), the statement is whether or not the Police accompanied the patient to the hospital.

Facsimile of Forms of Inquiry furnished to the Hospitals: with a specimen set of Replies.

1.		2.		3.		4.		5.	
Date.	2nd May.	14th May.	19th May.	21st May.	1st June.	Date.	Name of Patient.	Nature of Injury or Illness. (Say whether slight, severe, dangerous, &c.).	Place where the Accident or Illness occurred.
	A. B.	C. D.	F. G.	K. L.	M. N.				
	Fractured femur (severe).	Fit (slight).	Profound shock.	Fractured tibia and fibula (severe)	Injuries to back, face and ankle (dangerous).				
	Gosnell Road.	Fetter Lane.	Deacon Street.	Jumped off Railway Bridge.	Gloucester Place.				
Mode of Conveyance— (Cab. ... Cart, Van, &c. ... Stretcher. ... Wheeled Litter. ... Vehicular Ambulance. ... Otherwise (specify) ...)	X — — — —	— — X — —	X — — — —	— — X — —	X — — — —				
If, on the face of it, the mode of conveyance was unsuitable, was any reason assignable for its use?	Unsuitable. Quickest mode available.	—	—	Suitable.	Unsuitable.				
Time elapsed between the accident, &c., and arrival of First Aid (if any). ... arrival of Ambulance (if any). ...	—	10 minutes.	5 minutes.	—	3 minutes.				
Time occupied in conveyance from the place of the accident, &c., to the Hospital.	10 minutes.	7 minutes.	10 minutes.	3 minutes.	8 minutes.				
Was "First Aid" rendered on the spot? ... If so, By whom;—Doctor, Police, or Private Individual? ... Was the First Aid efficient (so far as it went)? ...	No.	No.	Yes.	No.	Yes.				
Was the patient's condition prejudiced by— (a) Mistake or inadequacy in the administration of the First Aid? (b) Nature of the vehicle used for conveyance? (c) Length of time before the patient arrived at the Hospital? (d) Absence of expert medical attention on the journey?	Not at all. Seriously. Not at all. Not at all.	Not at all. Not at all. Not at all. Not at all.	No. Yes. No. No.	Slightly. No. No. No.	Slightly. Slightly. No. No.				
If so, Would the medical requirements have been met by— (a) Ordinary First Aid, efficiently rendered (without attendance of a doctor on the journey to Hospital)? (b) Use of Stretcher, Wheeled Litter, &c.? ... (c) Use of Vehicular Ambulance (horse or motor)? (d) Was there vital need for the presence of a doctor with the ambulance?	— Wheeled Litter. —	— — —	— — Yes.	Yes. Best for so short a distance. —	Yes. Yes. —				
REMARKS. ...	No. By Police.	No. Sent out.	No. Admitted.	No. Attempted suicide. Admitted.	No. This patient injured her back under a motor car, and should have come on a stretcher.				

APPENDIX I.: TABLE (B).

ST. BARTHOLOMEW'S HOSPITAL.

PERIOD :—A Fortnight (April 24th to May 8th, 1907).

TOTAL NUMBER OF CASES RECORDED :—80.

NUMBER IN CLASS I.—17; CLASS II.—26; CLASS III.—6; CLASS IV.—21; CLASS V.—1; CLASS VI.—9.

(These cases are stated to be *very nearly all* the cases occurring in streets or public places conveyed to the Hospital in the above period :
total omissions not more than 12.)

PARTICULARS OF CASES.				OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)								
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.
	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes).	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated).	First Aid (if any), by whom (Doctor, Police or Private Person), Time before Arrival. (Minutes).	Num- ber.	Whether case prejudiced thereby, Remarks, &c.	10. Requirement.	11. Fault (if any), Remarks, &c.	12. Requirement.	Expert Medical Atten- tion on the Journey.
CLASS I. (Minor Injuries.)												
1	M.	Slight cuts on ear.	Cart.	5	City.	—	1	—	—	—	—	—
2	F.	" chin.	Cab.	5	City.	—	2	—	—	—	—	—
3	M.	" over eye.	Cart.	5	Met.	—	3	—	—	—	—	—
4	F.	Slight bruises to foot.	Cab.	5	City.	—	4	—	—	—	—	—
5	M.	" foot.	Cart.	5	—	—	5	—	—	—	—	—
6	M.	" leg.	Cab.	8	City.	—	6	—	—	—	—	—
7	M.	" leg.	Van.	3	City.	—	7	—	—	—	—	—
8	F.	" leg (kick).	Litter...	20	City.	—	8	—	—	—	—	—
9	F.	" arm and leg.	Cab.	10	City.	—	9	Patient refused Litter...	—	Patient refused Police First Aid.	—	—
10	M.	Slight injury to face.	Litter...	20	Met.	Private. ... (0)	10	—	—	—	—	—
11	M.	" hands.	Cab.	3	City.	—	11	—	—	—	—	—
12	M.	" arm.	Litter...	10	City.	—	12	—	—	—	—	—
13	M.	" foot.	Litter...	5	City.	—	13	—	—	—	—	—
14	M.	" knee.	Litter...	10	City.	—	14	—	—	—	—	—
15	M.	" leg.	Van.	15	—	Private.	15	—	—	—	—	—
16	M.	" (? run over).	Van.	10	Met.	—	16	—	—	—	—	—
17	M.	" (knocked down).	Litter...	7	City.	—	17	—	—	—	—	—
CLASS II. (Illness.)												
18	M.	Fits (slight).	Cart.	15	Met.	—	18	—	Ambulance would have been most useful.	—	—	—
19	M.	"	Litter...	5	—	Private.	19	—	—	—	—	—
20	F.	"	Litter...	15	City.	—	20	—	—	—	—	—
21	M.	"	Litter...	5	City.	—	21	—	—	—	—	—
22	M.	"	Litter...	15	City.	—	22	—	—	—	—	—
23	M.	"	Cab.	15	City.	—	23	Patient refused Litter which was brought by the Police.	—	—	—	—
24	M.	"	Litter...	12	City.	Police.	24	—	—	—	—	—
25	M.	"	Litter...	9	City.	—	25	—	—	—	—	—

[illegible]

[SEE OVER.]

St. Bartholomew's Hospital—continued.

PARTICULARS OF CASES.										OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)			
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.	
Num- ber	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes).	Time on Journey. (Minutes)	Police. (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes).		Nun- ber.	9.	10.	11.	12.		
								Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.	
56	F.	CLASS IV.—Continued. Injury to spine (dangerous). " " back & foot (slight). " " back (severe).	Litter. ... (3)	7	City.	—	56	—	—	—	—	—	
57	M.		Litter. ... (3)	15	Met.	Doctor.	57	—	—	—	—	—	
58	M.		Cab.	15	—	—	58	Unsuitable. (Difficult to know the extent of harm that might be done.)	Litter suitable.	—	—	—	—
59	M.	" " abdomen. ... Run over (fatal). ...	Litter. ... (0)	9	City.	—	59	—	—	—	—	—	
60	M.		Van.	5	—	—	60	—	Litters would be most useful on the outskirts of the City.	—	—	—	—
61	F.	Knocked down by van (severe). Fractured clavicle and con- cussion (dangerous). Slight shock (knocked down). Slight shock. ... Crushed (slight). ... Crushed (slight). ... Slight injury (fall from build- ing).	Cab.	10	Met.	—	61	Seriously prejudiced the case. ...	Litter suitable.	—	—	—	
62	M.		Van.	20	—	—	62	Most unsuitable. Seriously prej- udiced the case.	Litter most use- ful.	—	—	—	—
63	F.		Litter. ... (5)	10	City.	—	63	—	—	—	—	—	—
64	M.		Cart.	10	—	—	64	—	—	—	—	—	—
65	M.		Van.	10	Met.	—	65	—	—	—	—	—	—
66	M.		Litter. ... (4)	9	City	—	66	—	—	—	—	—	—
67	M.		Litter. ... (10)	5	City.	—	67	—	—	—	—	—	—
68	M.	Slight injury to side. ... Slight injury to side & ankle. Dislocated shoulder. ...	Cab.	5	—	—	68	Not suitable, but no harm done.	Litter better. ...	—	—	—	
69	M.		Cab.	5	—	—	69	Not suitable, but no harm done.	Litter better. ...	—	—	—	—
70	M.		Cab.	15	Met.	Doctor.	70	—	Litters wanted on the out- skirts of the City.	—	—	—	—
71	F.	CLASS V. (Fracture, &c., of Upper Limb.) Fractured arm (severe).	Litter. ... (3)	15	City.	Police.	71	—	—	First Aid good. ...	—	—	
72	F.	CLASS VI. (Fracture, &c., of Lower Limb.) Fractured patella. ...	Litter. ... (5)	5	City.	—	72	—	—	—	Splint would have been useful.	—	
73	M.	" " (severe). ... " " (severe). ... Injured knee (severe). ... Fractured leg (severe).	Litter. ... (5)	15	City.	Police. ... (0)	73	—	—	—	—	—	
74	M.		Cab.	$\frac{3}{4}$ mile.	—	—	74	Unsuitable, but no harm done. ...	Litter. ...	First Aid good. ...	—	—	—
75	M.		Litter. ... (5)	10	City.	Police.	75	—	—	—	—	—	—
76	M.		Van.	10	Met.	—	76	Unsuitable. Case prejudiced (seriously ?)	Litter with back splint.	—	—	—	—
77	M.	" " tibia (severe). ... " " leg (severe). ... Sprained ankle (slight). ... Injury to foot (severe).	Litter. ... (4)	10	City.	Police.	77	—	—	First Aid good. ...	—	—	
78	M.		Litter. ... (5)	15	Met.	Police.	78	—	—	—	—	—	—
79	M.		Litter. ... (5)	10	City.	—	79	—	—	—	—	—	—
80	M.		Cab.	12	—	Private. ... (0)	80	Unsuitable. Case slightly prejudiced.	Litter useful. ...	—	—	—	—

GUY'S HOSPITAL.

PERIOD:—A Fortnight (May 2nd to May 17th, 1907).

TOTAL NUMBER OF CASES RECORDED:—76.

NUMBER IN CLASS I.—15; CLASS II.—15; CLASS III.—18; CLASS IV.—11; CLASS V.—3; CLASS VI.—14.

(This number represents, it is estimated, about 40 less than the total number of cases, occurring in streets or other public places, conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.							OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)					
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.
Num- ber.	Patient — Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance (Minutes).	Time on Journey: (Minutes)	Police. (Not a Police Case unless stated).	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num- ber.	9.	10.	11.	12.	Expert Medical Atten- tion on the Journey.
								Whether case prejudiced thereby. Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	
CLASS I. (Minor Injuries.)												
1	F.	Slight bruises.	Cart.	5	Met.	—	1	—	—	—	—	—
2	F.	" " " " " " " "	Cab.	2	Met.	—	2	—	—	—	—	—
3	M.	Slight bruises to back.	Litter.	5	Met.	—	3	—	—	—	—	—
4	M.	" " " " " " " "	Cart.	7	Met.	—	4	—	—	—	—	—
5	M.	" " " " " " " "	Litter. ... (3)	10	Met.	—	5	—	—	—	—	—
6	M.	" " " " " " " "	Litter.	15	Met.	—	6	—	—	—	—	—
7	F.	" " " " " " " "	Litter. ... (4)	8	City.	—	7	—	—	—	—	—
8	M.	" " " " " " " "	Litter. ... (5)	10	Met.	—	8	—	—	—	—	—
9	F.	" " " " " " " "	Carried.	20	Met.	—	9	—	—	—	—	—
10	F.	" " " " " " " "	Litter. ... (5)	15	Met.	—	10	—	—	—	—	—
11	M.	Abrasions to leg & side (slight).	Litter. ... (10)	10	Met.	—	11	... .. (No opinions expressed in this case.)	... ..	... ..	... ..	—
12	M.	" " " " " " " "	Dogcart.	10	Met.	—	12	—	—	—	—	—
13	M.	" " " " " " " "	Van.	5	Met.	—	13	—	—	—	—	—
14	M.	" " " " " " " "	Cab.	12	—	—	14	—	—	—	—	—
15	F.	Slight injury.	Coster barrow.	15	—	—	15	—	—	—	—	—
CLASS II. (Illness.)												
16	M.	Epileptic fit and slight cuts.	Litter. ... (5)	10	Met.	—	16	—	—	—	—	—
17	F.	" " " " " " " "	Litter. ... (5)	5	Met.	—	17	—	—	—	—	—
18	M.	" " " " " " " "	Carried.	8	Met.	—	18	—	—	—	—	—
19	F.	" " " " " " " "	Litter. ... (5)	15	City.	Police.	19	—	—	—	—	—
20	M.	" " " " " " " "	Cart.	3	Met.	—	20	—	—	—	—	—
21	M.	" " " " " " " "	Cab.	7	Met.	—	21	—	—	—	—	—
Might have been prejudiced by lack of such attention.												
[SEE OVER.]												

Might have been
prejudiced by lack
of such attention.

[SEE OVER.]

Guy's Hospital—continued.

PARTICULARS OF CASES.										OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)			
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.	
Num- ber.	Patient — Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num- ber.	9.	10.	11.	12.	Expert Medical Atten- tion on the Journey.	
								Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.		
CLASS II.—Continued.													
22	M.	Fit.	Litter. ... (10)	15	Met.	Doctor. ... (5)	22	—	—	—	—	—	
23	F.	Poisoning, acid.	Litter. ... (10)	45	Met.	Police. ... (5)	23	... ..	(No opinions expressed in this case.) ... ..	... ..	... ..	—
24	F.	" " carbolic (severe).	Cab.	15	Met.	Police. ... (5)	24	—	—	—	—	—	
25	F.	" (fish). Gastro-enteritis (moderately severe).	Litter. ... (5)	15	Met.	Police. ... (5)	25	—	—	—	—	—	
26	M.	Immersion (attempted suicide).	Litter. ... (5)	10	Met.	Police. ... (5)	26	—	—	—	—	—	
27	M.	Intoxication (?).	Litter. ... (5)	20	Met.	Police. ... (5)	27	—	—	—	—	—	
28	M.	Pleurisy and starvation.	Litter. ... (10)	10	Met.	Police. ... (5)	28	—	—	—	—	—	
29	M.	Abdominal pain (slight).	Litter. ... (10)	20	Met.	Police. ... (5)	29	—	—	—	—	—	
30	M.	Heat, and want of food.	Cab.	7	Met.	Police. ... (5)	30	—	—	—	—	—	
CLASS III. (Wounds, Hamorrhage, Severe Bruising, &c.)													
31	M.	Wound, or cut, to scalp.	Litter. ... (20)	10	Met.	Police. ... (5)	31	—	—	—	—	—	
32	F.	" " " scalp	Litter. ... (20)	10	City.	Police. ... (5)	32	—	—	—	—	—	
33	M.	" " " scalp & face (severe).	Litter. ... (10)	—	Met.	Police. ... (5)	33	—	—	—	—	—	
34	M.	" " " head (slight).	Van.	5	Met.	Police. ... (20)	34	—	—	—	—	—	
35	M.	" " " forehead (slight).	Litter. ... (5)	10	City.	Police. ... (20)	35	—	—	—	—	—	
36	M.	" " " face.	Litter. ... (30)	10	Met.	Police. ... (20)	36	—	—	—	—	—	
37	M.	" " " thumb (severe).	Van.	3	Met.	Police. ... (5)	37	—	—	—	—	—	
38	M.	" " " leg (slight).	Stretcher. (25)	—	Met.	Police. ... (5)	38	—	—	—	—	—	
39	M.	Epistaxis.	Cab.	5	Met.	Police. ... (15)	39	Slightly. (Used because handy.)	Litter.	—	—	—	
40	F.	Hamorrhage with pregnancy (severe).	Litter. ... (3)	20	Met.	Police. ... (15)	40	—	—	—	—	—	
41	M.	Cerebral hamorrhage (slight).	Litter. ... (5)	10	Met.	Police. ... (5)	41	—	—	—	—	—	
42	M.	Bruised foot.	Litter. ... (5)	10	City.	Police. ... (5)	42	—	—	—	—	—	
43	M.	" " leg (severe).	Cart.	10	Met.	Police. ... (5)	43	—	—	—	—	—	
44	F.	" " leg.	Dogcart.	30	Met.	Police. ... (5)	44	—	—	—	—	—	
45	M.	" " hip.	Cab.	5	Met.	Police. ... (5)	45	Prejudiced.	Litter.	—	—	—	

46	F.	CLASS III.—Continued. Crushed foot (slight).	15	Met.	—	46	—	—	—	—	—
47	M.	Metal burns on face.	25	Met.	Private. ... (2)	47	—	—	—	—	—
48	F.	Assault.	15	City.	—	48	—	—	—	—	—
49	M.	CLASS IV. (Head and Internal Injuries, Shock, &c.)	15	City.	—	49	...	...	...	...	...
50	M.	Cut eye (unconscious).	6	City.	—	50	...	...	...	...	...
51	M.	Bruised head.	10	Met.	—	51	...	...	...	...	...
52	M.	Fractured base of skull.	50	—	—	52	...	...	...	...	...
53	M.	Broken jaw, cut lip (severe).	25	Met.	—	53	...	...	...	...	...
54	F.	Cut head.	10	Met.	—	54	...	...	...	...	...
55	M.	Cut head, syncope.	5	Met.	—	55	...	...	...	...	...
56	M.	Abdominal injuries.	5	Met.	—	56	...	...	...	...	...
57	M.	Strained back (severe).	10	Met.	—	57	...	...	...	...	...
58	M.	Profound shock.	20	Met.	Doctor. ... (5)	58	...	...	...	...	...
59	M.	Concussion.	9	City.	Police. ... (1)	59	...	...	...	...	...
60	M.	Compound fracture of humerus	15	Met.	—	60	...	...	...	...	...
61	F.	Fracture of ulna and radius.	10	—	Private. ... (20)	61	...	...	...	...	...
62	M.	Fractured humerus.	15	Met.	—	62	...	...	...	...	...
63	M.	CLASS V. (Fracture, Dislocation of Upper Limb.)	35	Met.	Doctor.	63	...	...	...	...	...
64	F.	Fractured neck of femur.	5	Met.	—	64	...	...	...	...	...
65	M.	" femur (severe).	5	Met.	—	65	...	...	...	...	...
66	M.	" femur.	15	Met.	—	66	...	...	...	...	...
67	M.	" femur (lower end).	30	Met.	—	67	...	...	...	...	...
68	M.	Fracture of tibia and fibula.	10	Met.	Police. ... (10)	68	...	...	...	...	...
69	M.	" tibia and fibula (compound).	20	Met.	Police. ... (6)	69	...	...	...	...	...
70	M.	Fractured tibia (severe).	15	Met.	—	70	...	...	...	...	...
71	M.	" tibia (compound).	25	Met.	—	71	...	...	...	...	...
72	F.	" fibula.	25	Met.	—	72	...	...	...	...	...
73	M.	Potts fracture.	5	Met.	—	73	...	...	...	...	...
74	M.	Fracture of great toe (compound).	15	Met.	Private. ... (5)	74	...	...	...	...	...
75	M.	Sprained ankle.	40	Met.	—	75	...	...	...	...	...
76	M.	" ankle.	15	Met.	—	76	...	...	...	...	...

Should have had expert medical attention.

THE LONDON HOSPITAL.

PERIOD :—Just over a Fortnight (September 26th to October 12th, 1907). TOTAL NUMBER OF CASES RECORDED :—70.
 NUMBER IN CLASS I.—9; CLASS II.—6; CLASS III.—15; CLASS IV.—16; CLASS V.—2; CLASS VI.—22.
 (These cases are stated to be *all* those, occurring in streets or other public places, conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.													OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)			
1. Num- ber.	2. Patient —Male or Female	3. Nature of Injury or Illness.	4. Conveyance and Time before arrival of Ambulance (Minutes.)	5. Time on Journey. (Minutes)	6. Police, (Not a Police Case unless stated.)	7. First Aid (if any), by whom (Doctor, Police or Private Person), Time before Arrival. (Minutes.)	8. Num- ber.	Mode of Conveyance.		First Aid.		13. Expert Medical Atten- tion on the Journey.				
								9. Whether case prejudiced thereby, Remarks, &c.	10. Requirement.	11. Fault (if any), Remarks, &c.	12. Requirement.					
CLASS I. (Minor Injuries.)																
1	M.	Bruised face (slight). ...	Van.	5	—	—	1	—	—	—	—	—				
2	M.	Bruised shoulder (slight). ...	Litter.	15	Met.	—	2	—	—	—	—	—				
3	M.	Alleged injury to back (slight). ...	Litter.	10	Met.	—	3	—	—	—	—	—				
4	M.	Injury to ribs (slight contusions)	Van.	1½ hrs.	—	—	4	—	—	—	—	—				
5	F.	Bruised ankle (slight). ...	Cab.	15	—	—	5	—	—	—	—	—				
6	M.	Slight bruises (fall from van).	Litter. ... (5)	15	Met.	—	6	—	—	—	—	—				
7	M.	Slight abrasions of forehead (drink.)	Litter.	10	Met.	—	7	—	—	—	—	—				
8	M.	Slight sprain. ...	Carried.	—	Met.	—	8	—	—	—	—	—				
9	M. (child)	Horse bite (trivial). ...	Cart and car- ried.	7	—	—	9	—	—	—	—	—				
CLASS II. (Illness.)																
10	M.	Fits, probably hysterical (dangerous).	Litter. ... (5)	5	Met.	Police. ... (0)	10	—	Constable to be com- mended for the First Aid.	—	—	—				
11	M.	Fits, possibly apoplectic (dangerous).	Litter. ... (20)	15	Met.	Doctor at Police Station.	11	—	—	—	—	—				
12	M.	Fits, epileptic (dangerous). ...	Litter. ... (10)	7 to 8	Met.	Doctor called. (3)	12	—	—	—	—	—				
13	M.	Fits, probably epileptic (dangerous).	Litter.	2	Met.	—	13	—	—	—	—	—				
14	M.	Fits, epileptic (slight). ...	Cab.	6	Met.	—	14	—	—	—	—	—				
15	F.	Poisoning with spirits of salts (dangerous).	Litter. ... (10)	8	Met.	Doctor. ... (5)	15	Probably not prejudiced, but time of importance. Brought ¾ mile in 8 minutes by litter.	Rapid Ambulance desirable.	—	—	Little value after the First Aid in this case.				
CLASS III. (Wounds, Hæmorrhage, &c.)																
16	M.	Cut throat (dangerous). ...	Cab.	20	Met.	Doctor. ... (15)	16	—	Rapid Ambulance the best method.	—	—	Probably best in most such cases; not vitality necessary after the First Aid in this case. Not necessary after the First Aid.				
17	M.	Cut throat (dangerous). ...	Cab.	15	Met.	Doctor. ... (2)	17	Might have been by slowness, if there had not been First Aid.	Rapid Ambulance suitable.	—	Doctor's skill required.	—				
18	M.	Scalp wound (slight). ...	Litter.	25	Met.	—	18	—	—	—	—	—				
19	M.	Scalp wound (slight). ...	Barrow.	10	Met.	Private. ... (5)	19	—	—	—	—	—				

CLASS III.—Continued.

20	M.	Wounds (stab) in face and buttock.	Coster's barrow and Litter.	45(?)	Met.	Taken to another Hospital first.	20	—	—	—	—	—
21	M.	Stab in thigh, severe hæmorrhage (dangerous).	Barrow.	12 (To home first.)	—	Private. ... (2)	21	Slightly by length of time to Hospital; taken home (2 mins.) first.	Litter or rapid Ambulance.	Not adequate; case might have been severely.	Proper First Aid.	Not essential if First Aid rendered.
22	M.	Stab in thigh and abdomen (dangerous).	Carriage.	12 hrs. (Taken home first.)	Met.	Doctor at Police Station.	22	—	Ambulance desirable.	—	—	Not essential with the First Aid.
23	M.	Bullet wound in hand (slight).	Motor 'Bus.	30	—	—	23	—	—	—	—	—
24	M.	Lacerated hand (severe). ...	Stretcher.	30	—	Private.	24	—	—	—	—	—
25	M.	Lacerated forearm (glass cut, severe).	Motor 'Bus.	1½ hr. (Taken to another Hospital first.)	Met.	Private. ... (0)	25	—	Failing First Aid Rapid Ambulance desirable.	Useless; case prejudiced.	Proper First Aid.	—
26	M. (child)	Septic wound of knee (severe).	Electric Ambulance.	(Taken to Bart's first.)	City.	—	26	—	—	—	—	—
27	M. (child)	Kick by horse on leg: contusions.	Carried.	1½ hr. (Taken home first.)	—	—	27	—	—	—	—	—
28	M.	Kick by horse on leg: contusions.	Litter.	8	Met.	—	28	—	—	—	—	—
29	M.	Hæmoptysis (dangerous). ...	Litter. ... (5)	6 or 7	Met.	Police. (2 or 3)	29	—	Rapid Ambulance desirable.	Constable to be commended.	—	Not essential. Early Hospital treatment important.
30	M.	Hæmatemesis (dangerous). ...	Barrow.	2	—	—	30	Possibly prejudiced.	Litter suitable.	Slightly prejudiced by absence of First Aid.	Doctor desirable.	—
31	M. (child)	Fractured base of skull (fatal).	Van.	10	Met.	—	31	—	—	—	—	—
32	M.	Fractured base of skull and possibly cerebral hæmorrhage (fatal).	Litter. ... (10)	40 (Taken to Police Station.)	Met.	Seen by Police Surgeon.	32	The delay was possibly slightly detrimental; but Police were right to go to the Station, as diagnosis was difficult.	Rapid Ambulance best means.	—	—	—
33	M.	Fractured base of skull and scalp wounds (dangerous).	Motor cab.	3	Met.	—	33	Upright posture in cab undesirable (but the rapid transit was also important).	Rapid Ambulance best means: litter probably satisfactory.	—	—	—
34	F.	Cut head, from fall in street (severe).	Litter.	10	Met.	—	34	—	—	—	—	—
35	M.	Fractured ribs (dangerous)....	Horse Ambulance.	45 (10 mls.)	Met.	Doctor. ... (5)	35	(?) Slightly by length of journey.	—	—	—	—
36	M. (child)	Fractured collar bone, bruises, cut tongue, and shock (severe).	Litter. ... (30)	20	Met.	Taken to doctor.	36	—	—	—	—	—

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2

[SEE OVER.]

The London Hospital—continued

PARTICULARS OF CASES.										OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)			
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		11.	12.	13.	
	Patient—Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person) and Time before Arrival. (Minutes).	Num-ber.	9.	10.	Fault (if any), Remarks, &c.	Requirement.	First Aid.	
								Whether case prejudiced thereby, Remarks, &c.	Requirement.				
37	M.	<u>CLASS IV.—Continued</u> Internal strain and collapse (dangerous).	Railway Ambulance.	10	—	—	37	—	—	—	—		
38	M.	Concussion (dangerous). ...	Cab.	Walked home first.	—	Doctor. ... (0)	38	Possibly slightly by conveyance.	Rapid Ambulance	—	—		
39	M.	Concussion (dangerous). ...	Railway Van.	5	—	Private.	39	—	—	—	—		
40	M.	Concussion and scalp wound (thrown by horse, dangerous)	Carried.	5	—	—	40	—	—	—	—		
41	M.	Concussion and scalp wound, possibly fractured base of skull (dangerous).	Coster's Barrow.	40 (Taken first to another Hosptl.)	—	At Hospital near the accident.	41	Possibly slightly by conveyance (including slowness).	Litter or rapid Ambulance.	—	—		
42	F.	Shock and scalp wound (slight)	Cab.	5	—	—	42	—	—	—	—		
43	M.	Contused thigh, fall from ladder (slight).	Cab.	10	—	—	43	—	—	—	—		
44	M.	Knocked down by motor cab, bruises and fright (slight).	Motor Cab.	10	Met.	—	44	—	—	—	—		
45	F. (child)	Run over, contusion of shoulder (slight).	Carried.	5	Met.	—	45	—	—	—	—		
46	M.	Run over, contusions (slight)	Cart.	45	Met.	—	46	—	—	—	—		
47	F. (child)	<u>CLASS V.</u> (Fracture of Upper Limb.) Fractured radius. ...	Carried.	—	—	—	47	—	—	—	—		
48	F. (child)	Fractured humerus (run over)	Carried.	15	—	—	48	Possibly slightly. ...	Litter or rapid Ambulance.	Possibly slightly by absence of Aid.	Ordinary First Aid (but not essential).		
49	M.	<u>CLASS VI.</u> (Fracture, &c., of Lower Limb.) Fractured femur (severe). ...	Litter. ... (5)	10	Met.	—	49	—	—	—	—		
50	F.	Intracapsular fracture of femur (?), and drink (severe).	Litter (after walking 1 mile).	10 by litter, 2 hours' walking	Met.	—	50	—	—	—	—		

Calculated possibly to be advantageous in such cases.

CLASS VI.—Continued.									
51	F.	Fractured tibia and fibula (severe).	Chair (to home), trap (to Hospital).	30	Met.	Doctor (soon).	51	—	—
52	F.	" fibula (severe).	Litter. ... (10)	—	Met.	Private. ... (0)	52	—	—
53	M. (child)	" tibia (severe).	Tramcar.	5	—	—	53	—	—
54	M.	" fibula (severe).	Van, Tram, and Bus.	2 hrs.	—	—	54	—	—
55	M.	" tibia and fibula (severe).	Dock Ambulance, ... (5)	35	—	Private. ... (0)	55	—	—
56	F. (child)	" tibia and fibula (severe).	Carried.	5	Met.	—	56	—	—
57	M.	" tibia and fibula (severe).	Barrow.	10	—	—	57	—	Slightly by absence of First Aid.
58	M.	" fibula, hematoma abrasions, shock (severe).	Litter.	10	Met.	—	58	—	—
59	M.	Potts fracture (severe).	Van.	5	Met.	—	59	—	Possibly slightly by absence of First Aid.
60	M.	" " (severe).	Litter. ... (2)	15	Met.	—	60	—	—
61	M.	Fractured ankle (severe).	Cab.	15 or 20	—	Private. ... (0)	61	—	—
62	M.	" " (severe).	Litter. ... (7)	20	Met.	Doctor. ... (15)	62	—	—
63	M. (child)	" " (severe).	Tramcar.	15 (to home first.)	—	—	63	—	—
64	M.	" " (severe).	Dock Ambulance.	—	—	Dock Police. (0)	64	—	—
65	M.	Sprained ankle (slight).	Litter. ... (10)	15	Met.	—	65	—	—
66	F.	" " (slight).	Litter. ... (5)	6	Met.	—	66	—	—
67	F. (child)	" " (slight).	Carried.	—	—	—	67	—	—
68	M.	Rupture of ligament of knee (severe).	Van and Stretcher.	7	—	—	68	—	—
69	M.	Rupture of ligament of knee and synovitis (severe).	Tramcar.	1 hour.	—	—	69	—	—
70	M. (child)	Crushed foot (severe).	Trolley.	20	—	—	70	—	—

ST. MARY'S HOSPITAL.

PERIOD:—A Fortnight (April 29th to May 12th, 1907.)

TOTAL NUMBER OF CASES RECORDED:—40.

NUMBER IN CLASS I.—11; CLASS II.—3; CLASS III.—4; CLASS IV.—12; CLASS V.—Nil; CLASS VI.—10.

(These are stated to be *all* the cases, occurring in the streets or other public places, conveyed to the Hospital in the above period. It is remarked, however, that the number of cases appeared to be unusually small, and their character less severe than the average.)

PARTICULARS OF CASES.				OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)								
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		11.	12.	13.
Num-ber.	Patient—Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num-ber.	Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Attention on the Journey.
CLASS I. (Minor Injuries.)												
1	F.	Slight bruises to foot. ...	Litter. ... (5)	10	Met.	—	1	—	—	—	—	—
2	M.	" " leg ...	Cab.	10	Met.	—	2	—	—	—	—	—
3	M.	" " ankle. ...	Cab.	15	Met.	—	3	—	—	—	—	—
4	M.	" " head. ...	Cab.	7	Met.	—	4	—	—	—	—	—
5	M.	Abraded knees. ...	Van.	45	—	Private. ... (15)	5	—	—	—	—	—
6	M.	Cut ear and head (slight). ...	Tradesman's Tricycle.	5	Met.	—	6	—	—	—	—	—
7	F.	Cut head (slight). ...	Motor Car.	5	—	—	7	—	—	—	—	—
8	M.	Slight injury (unspecified). ...	Litter.	15	Met.	Police. ... (5)	8	—	—	—	—	—
9	Y'ng child.	" " (unspecified). ...	Motor Car.	10	Met.	Police. ... (6)	9	—	—	—	—	—
10	Y'ng child.	" " (unspecified). ...	Motor Car.	10	Met.	Police. ... (6)	10	—	—	—	—	—
11	M.	" " (with drink). ...	Cab.	10	—	—	11	—	—	—	—	—
CLASS II. (Illness.)												
12	M.	Paralysis (severe). ...	Litter. ... (10)	20	Met.	—	12	—	—	—	—	—
13	F.	Unconscious (alcohol). ...	Litter.	15	Met.	—	13	—	—	—	—	—
14	M.	Pseudo-angina (slight). ...	Litter. ... (10)	10	—	—	14	—	—	—	—	—
CLASS III. (Wounds, Hemorrhage, &c.)												
15	F.	Wound to forehead, bruised arm (drink).	Cab.	10	Met.	—	15	—	—	—	—	—
16	M.	Cerebral hæmorrhage (fatal).	Litter.	15	Met.	Doctor. ... (10)	16	—	—	—	—	—
17	M.	Cut throat (severe). ...	Litter.	30	Met.	Doctor. ... (30)	17	Slightly by slowness. ...	Rapid Ambulance	—	—	—
18	M.	Bruised arm (severe). ...	Motor Car.	10	Met.	—	18	—	—	—	—	—

CLASS IV. (<i>Head and Internal Injuries, Shock, &c.</i>)									
19	M.	Fracture of skull (dangerous).	Litter. ... (5)	30	Met.	Doctor & Police.	19	—	—
20	M.	Fracture of skull (severe).	Stretcher.	40	Met.	Doctor.	20	—	—
21	M.	Cut head, contused leg (slight).	Cab.	35	—	—	21	—	—
22	M.	Cut and contused head.	Van.	12	Met.	—	22	—	—
23	M.	Cut head: drink (slight).	Stretcher.	20	Met.	—	23	—	—
24	M.	Cut head and hæmatoma, bruised leg.	Cab.	5	—	—	24	—	—
25	F.	Injured back, face and ankle (dangerous).	Cab.	8	Met.	Private. ... (3)	25	Slightly prejudiced.	Patient should not have been put in a Cab: prejudiced.
26	M.	Injured thigh (run over).	Van.	6	Met.	Police. ... (0)	26	—	—
27	M.	Bruised abdomen (severe).	Cab.	10	Met.	Police. ... (0)	27	—	—
28	F.	Shock (slight).	Van.	10	Met.	—	28	—	—
29	M.	Concussion (slight).	Cab.	15	Met.	Doctor. ... (0)	29	—	—
30	M.	Concussion (slight).	Motor Car.	10	—	—	30	—	—
CLASS V. (<i>Fracture of Upper Limb.</i>)									
No cases.									
CLASS VI. (<i>Fracture, Dislocation of Lower Limb.</i>)									
31	M.	Fracture of femur and pelvis (severe).	Stretcher.	10	Met.	—	31	Best means for so short a distance.	Slightly prejudiced by lack of First Aid.
32	F.	Fractured femur (severe).	Litter.	30	Met.	Seen by Doctor. ... (30) (nothing done)	32	—	—
33	F.	Fractured patella (severe).	Cab.	20	—	—	33	Slightly. ...	Slightly prejudiced by lack of First Aid.
34	M.	Fractured patella.	Cart.	20	Met.	—	34	—	Patient's own fault he was not attended to at the time of accident.
35	M.	Fractured fibula (slight).	Cab.	20	Met.	—	35	Not suitable (first to hand).	—
36	M.	Compound fracture of leg (severe).	Litter. .. (5)	15	—	Two nurses. (5)	36	—	—
37	M. (child)	Fractured tibia (slight).	Train and carried.	From day before.	—	—	37	Slightly by time taken and by carrying. (A Southall case: Mother too poor to obtain medical aid there.)	Slightly prejudiced by lack of First Aid.
38	M.	Dislocated femur.	Train & Litter.	3 hrs.	Met.	Doctor. ... (5)	38	—	—
39	M.	Sprained ankle (slight).	'Bus and Cab.	15	—	—	39	—	—
40	M.	Sprained ankle (slight).	Cab.	10	Met.	—	40	—	—

Appendix I.: Table (B.)—contd.

CHARING CROSS HOSPITAL.

PERIOD :—One Month (May 22nd to June 22nd, 1907).
TOTAL NUMBER OF CASES RECORDED :—30.
NUMBER IN CLASS I.—6; CLASS II.—5; CLASS III.—3; CLASS IV.—6; CLASS V.—1; CLASS VI.—9.
(These cases are stated to be *very nearly all* the cases, occurring in streets or other public places, conveyed to the Hospital during the above period.)

PARTICULARS OF CASES.													OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)				
1.	2.	3	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.					
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num- ber.	9.	10.	11.	12.	Expert Medical Atten- tion on the Journey.					
								Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.						
CLASS I. (Minor Injuries.)																	
1	M.	Slight bruises to shoulder. ...	Bath chair. (1)	5	—	—	1	—	—	—	—	—					
2	M.	" " knee ...	Litter. ... (5)	5	Met.	—	2	—	—	—	—	—					
3	M.	" " thigh. ...	Litter. ... (1)	10	Met.	—	3	—	—	—	—	—					
4	F.	" " leg. ...	Litter. ... (2)	8	—	—	4	—	—	—	—	—					
5	M.	Slight injury (unspecified). ...	Litter. ... (5)	15	Met.	—	5	—	—	—	—	—					
6	F.	" " (unspecified). ...	Litter.	2	Met.	—	6	—	—	—	—	—					
CLASS II. (Illness.)																	
7	M.	Epileptic fit ...	Litter. ... (5)	6	Met.	—	7	—	—	—	—	—					
8	M.	" fit (slight). ...	Litter. ... (3)	3	Met.	—	8	—	—	—	—	—					
9	M.	" fit and scalp wound (slight).	Stretcher. (3)	—	Met.	—	9	—	—	—	—	—					
10	M.	Coma. ...	Cab.	5	Met.	—	10	Unsuitable. ...	—	—	—	Prejudiced by absence of medical attention on the journey.					
11	M.	Poisoning (severe). ...	Litter. ... (3)	8	Met.	—	11	Prejudiced by slowness. ...	Rapid Ambulance	—	—						
CLASS III. (Wounds, Hemorrhage, &c.)																	
12	M.	Wound of leg. ...	Cab.	5	Met.	Police.	12	—	—	—	—	Prejudiced slightly by absence of such on the journey.					
13	M.	Cut and injury of thigh (severe), fracture of humerus.	Stretcher. (3)	7	Met.	—	13	Slightly. ...	Rapid Ambulance	—	—						
14	M.	Hæmatoma (slight). ...	Litter. ... (8)	5	Met.	—	14	—	—	—	—	—					

15	F.	CLASS IV. (<i>Head and Internal Injuries, Shock, &c.</i>)	Cab. 7	10	Met.	—	15	Prejudiced by conveyance.	...	Litter suitable.	—	—	—
16	M.	Severe bruises of jaw, shoulders, feet, &c. (Run over by cart.)	Cab.	5	Met.	—	16	Unsuitable (? prejudiced).	...	Rapid Ambulance	—	—	—
17	—	Concussion (severe).	Motor Brougham.	5	Met.	—	17	Unsuitable (? prejudiced).	...	Litter suitable.	—	—	—
18	M.	Scalp wound (severe) and slight concussion.	Cab. Bath chair.	5	—	Private. ... (0)	18	—	—	—	—	—	—
19	M.	Scalp wound. ...	Stretcher. (10)	5	—	—	19	—	—	—	—	—	—
20	M.	Scalp wound, severe crushed foot.	Litter. ... (5)	10	Met.	—	20	—	—	—	—	—	—
21	M.	CLASS V. (<i>Fracture of Upper Limb.</i>)	Cab.	5	Met.	—	21	Prejudiced by conveyance.	...	Litter or Rapid Ambulance.	—	—	Prejudiced by absence of such attention.
22	F.	CLASS VI. (<i>Fracture of Lower Limb, &c.</i>)	Litter.	15	Met.	—	22	—	—	—	—	—	—
23	M.	Fractured femur (severe).	Cab.	20	—	—	23	Unsuitable. (No litter procurable.)	—	Litter suitable.	—	—	—
24	M.	" patella (severe).	Litter. ... (3)	5	Met.	—	24	—	—	—	—	—	—
25	M.	" tibia and fibula (severe).	Litter. ... (12)	20	Met.	Police. ... (5)	25	—	—	—	—	—	—
26	M.	" tibia (severe).	Litter.	Very short.	—	—	26	—	—	First Aid very efficient.	—	—	—
27	M.	" tibia (severe).	Litter ... (5)	6	Met.	Private. ... (2)	27	—	—	—	—	—	—
28	M.	Compound fracture of tibia (severe).	Litter. ... (5)	5 to 10	Met.	—	28	—	—	—	—	—	—
29	M.	Crushed foot (severe).	Train & Bath chair. (A Purley case.)	1 hour	—	Doctor. ... (30)	29	—	—	—	—	—	—
30	M.	Fracture of os calcis (severe).	Cab.	15	—	Private. ... (2)	30	—	—	—	—	—	—

THE WEST LONDON HOSPITAL.

Appendix I.: Table (B.)—contd.

PERIOD :—One Month (April 27th to May 26th, 1907). TOTAL NUMBER OF CASES RECORDED :—43.

NUMBER IN CLASS I.—9; CLASS II.—7; CLASS III.—7; CLASS IV.—10; CLASS V.—2; CLASS VI.—8.

(These are stated to be all the cases, occurring in streets or other public places, which were conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.							OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)					
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.
Num-ber.	Patient—Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num-ber.	Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Attention on the Journey.
CLASS I. (Minor Injuries.)												
1	F.	Bruises to elbow (very slight).	Van.	5	—	—	1	—	—	—	—	—
2	M.	" back (slight).	Cab.	20	—	—	2	—	—	—	—	—
3	F.	" ankle (slight).	Carried.	15	—	—	3	—	—	—	—	—
4	M.	" ankle. ...	Motor Car.	5	—	—	4	—	—	—	—	—
5	M.	" shoulder (slight).	Motor Car.	2	—	—	5	—	—	—	—	—
6	M.	" leg (drink).	Van.	5	—	—	6	—	—	—	—	—
7	M.	" calf (slight).	Carried.	10	Met.	—	7	—	—	—	—	—
8	F.	" nose (slight).	Van.	10	Met.	—	8	—	—	—	—	—
9	M.	Injury to fibula (slight).	Bus.	5	—	—	9	—	—	—	—	—
CLASS II. (Illness.)												
10	M.	Fit. ...	Litter.	10	Met.	—	10	—	—	—	—	—
11	M.	Fit. ...	Litter.	5	—	—	11	—	—	—	—	—
12	M.	Fit. ...	Litter.	25	Met.	—	12	—	—	—	—	—
13	M.	Fit. and cut eye. ...	Cab.	8	Met.	—	13	—	—	—	—	—
14	F.	Epilepsy, cut head. ...	Litter.	10	Met.	—	14	—	—	—	—	—
15	F.	Syncope. ...	Litter.	5	Met.	—	15	—	—	—	—	—
16	M.	Lead colic (?). ...	Cab.	5	—	—	16	—	—	—	—	—

[illegible]

**Vital need for such
attention.**

Appendix I.: Table (B.)—*contd.*

THE MIDDLESEX HOSPITAL.

PERIOD :—A Fortnight (April 29th to May 12th, 1907).

TOTAL NUMBER OF CASES RECORDED :—25.

NUMBER IN CLASS I.—5 : CLASS II.—2 ; CLASS III.—8 ; CLASS IV.—6 ; CLASS V.—Nil ; CLASS VI.—4.

(These are stated to be *very nearly all* the cases, occurring in streets or public places, conveyed to the Hospital in the above period: *omissions not more than 6.*)

PARTICULARS OF CASES.													OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)				
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.					
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Journey: Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num- ber.	9.	10.	11.	12.	13.					
								Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.					
1	M.	CLASS I. (Minor Injuries.) Contusion and abrasion of buttock (slight).	Cab.	5	Met.	—	1	—	—	—	—	—					
2	M.	Contusion and abrasion of arm and leg	Cab.	8	Met.	—	2	—	—	—	—	—					
3	M.	Contusion of foot	Cab.	10	Met.	—	3	—	—	—	—	—					
4	F.	Contusion of arm, sprained thumb.	Cab.	15	Met.	—	4	—	—	—	—	—					
5	M.	Asthmatic attack (slight). ...	Cab.	3 or 4	Met.	Police. ... (2)	5	—	—	—	—	—					
6	M.	CLASS II. (Illness.) Fit.	Litter. ... (3)	10	Met.	Police. —	6	—	—	—	—	—					
7	M.	Syncope	Cab.	10	Met.	—	7	—	—	—	—	—					

CLASS III. (<i>Wounds, Hemorrhage, &c.</i>)											
8	M.	Cut face, broken nose, injured knee.	Cab.	5	Met.	—	—	—	—	—	—
9	F.	Cut nose.	Cab.	5	—	—	—	—	—	—	—
10	M.	Cut face and thumb, teeth knocked out.	Cab.	10	Met.	—	—	—	—	—	—
11	F.	Cut thigh from fall (severe).	Cab.	5 or 6	—	—	—	—	—	—	—
12	M.	Crushed toe.	Van.	15	—	—	—	—	—	—	—
13	F.	Hæmatoma, forehead and leg.	Cab.	5	Met.	—	—	—	—	—	—
14	M.	Crushed hand (severe).	Cab.	10	Met.	—	—	—	—	—	—
15	M.	Cut head.	Cab.	5	Met.	Police. ... (2)	—	—	—	—	—
CLASS IV. (<i>Head and Internal Injuries.</i>)											
16	M.	Cut head (dangerous).	Cab.	5	Met.	—	—	—	—	—	—
17	F.	" " and bruised leg.	Cab.	5	Met.	—	—	—	—	—	—
18	M.	" " (from a fall).	Cab.	5	—	—	—	—	—	—	—
19	M.	Fall down lift-way (fatal).	Litter.	2 or 3	Met.	—	—	—	—	—	—
20	M.	Injury to head (knocked down).	Litter.	6	—	—	—	—	—	—	—
21	M.	Fracture of clavicle and scapula.	Cab.	5	—	—	—	—	—	—	—
CLASS V. (<i>Fracture, &c., of Upper Limb.</i>)											
No cases.											
CLASS VI. (<i>Fracture, &c., of Lower Limb.</i>)											
22	M.	Compound fracture of tibia and fibula (severe).	Carried by two men.	3	—	—	Perhaps slightly.* ...	... ..	—	—	Perhaps slightly prejudiced by lack of medical attention.*
23	M.	Potts fracture (fall from scaffolding).	Cab.	5	—	—	Slightly. ...	... .. Litter. ...	—	—	—
24	M.	Sprained ankle, wound thigh.	Litter.	10	Met.	—	—	—	—	—	—
25	M.	Injury to tuberculous knee....	Cab.	10	Met.	—	Perhaps slightly.	... ..	—	—	—

* NOTE.—In this case (No. 22) as in other cases, the *very short* distance to be traversed renders unnecessary much that might otherwise be necessary.

A further remark is appended, namely, that, the hours from 8 to 10 a.m. and from 4 to 7 p.m. appear to be specially prolific in street accidents.

Appendix I.: Table (B.)—contd.

THE ROYAL FREE HOSPITAL.

PERIOD :—One Month (April 24th to May 22nd, 1907). TOTAL NUMBER OF CASES RECORDED :—31.

NUMBER IN CLASS I.—5 ; CLASS II.—8 ; CLASS III.—5 ; CLASS IV.—9 ; CLASS V.—Nil ; CLASS VI.—4.

(These are stated to be *all* the cases, occurring in streets or public places, which were conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.				OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)										
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.		
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes).	Police. (Not a Police Case unless stated).	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes).	Num- ber.	Whether case prejudiced thereby, Remarks, &c.	9.	10.	11, Fault (if any), Remarks, &c.	12. Requirement.	Expert Medical Atten- tion on the Journey.	
1	M.	CLASS I. (Minor Injuries.) Bruised head and elbow. ... Bruised head and leg (slight). ... Bruised knee (slight). ... Grazed face. ... Injury to leg (slight). ...	Cab.	15	Met.	—	1	—	—	—	—	—	—	
2	M.		Cab.	5	Met.	—	2	—	—	—	—	—	—	
3	F.		Van.	5	Met.	—	3	—	—	—	—	—	—	
4	M.		Cab.	10	Met.	—	4	Slightly.	... ..	—	—	—	—
5	M.		Cart.	10	Met.	—	5	—	—	—	—	—	—	
6	F.	CLASS II. (Illness.) Fit. ... Fit, epileptic (severe), ... Fit, epileptic (severe), ... Fit, epileptic (slight). ... Fit, epileptic. ... Fit, epileptic. ... Fit, epileptic. ... Paralysis (slight). ...	Litter. ... (5) Litter. Litter. Cab. Litter.	15	Met.	—	6	—	—	—	—	—	—	
7	M.			10	Met.	—	7	—	—	—	—	—	—	—
8	M.			8	Met.	—	8	—	—	—	—	—	—	—
9	M.			15	Met.	—	9	Doctor.	—	—	—	—	—	—
10	F.			15	Met.	—	10	—	—	—	—	—	—	—
11	M.		Litter.	5	Met.	—	11	—	—	—	—	—	—	
12	M.		Litter.	15	Met.	—	12	—	—	—	—	—	—	
13	M.		Litter. ... (15)	3	Met.	—	13	—	—	—	—	—	—	

CLASS III. (<i>Wounds, Hemorrhage, Severe Bruising, &c.</i>)		CLASS IV. (<i>Head and Internal Injuries, Shock, &c.</i>)		CLASS V. (<i>Fracture of Upper Limb.</i>)		CLASS VI. (<i>Fracture, Dislocation, &c., of Lower Limb.</i>)	
14	M.	5	Cab.	10	Cab.	10	Cab.
15	F.	2	Van.	15	Litter. ... (10)	35	Vehicular Ambulance. (45)
16	F.	2	Van.	15	Van.	15	Cab.
17	F.	5	Cab.			10	Cab.
18	M.	10	Van.				
<p>CLASS III. (<i>Wounds, Hemorrhage, Severe Bruising, &c.</i>)</p> <p>Out eyebrow Met.</p> <p>Cut lip, bruised leg and arm. Met.</p> <p>Bruised leg and elbow. Met.</p> <p>Bruising of neck (severe). Met.</p> <p>Bruised back. Met.</p>							
<p>CLASS IV. (<i>Head and Internal Injuries, Shock, &c.</i>)</p> <p>Cut head (severe)... .. Met.</p> <p>Cut head. Met.</p> <p>Fracture of base of skull</p>							
19	M.	10	Cab.	19	Police. ... (2)	28	Met.
20	F.	15	Litter. ... (10)	20	—	29	Met.
21	M.	15	Van.	21	—	30	—
<p>CLASS IV. (<i>Head and Internal Injuries, Shock, &c.</i>)</p> <p>Fracture of clavicle. Motor Van.</p> <p>Fractured ribs. Van.</p> <p>Bruising and shock (slight). Cab.</p> <p>Cut head and shock (slight), bruising (severe). Cab.</p> <p>Injury to knee; shock. Cart.</p> <p>Fracture of pelvis. Litter.</p>							
22	M.	5	Motor Van.	22	—	26	Met.
23	M.	5	Van.	23	—	27	Met.
24	M.	5	Cab.	24	—		
25	F.	10	Cab.	25	—		
26	M.	5	Cart.	26	—		
27	M.	5	Litter.	27	Police.		
<p>CLASS V. (<i>Fracture of Upper Limb.</i>)</p> <p>(No cases.)</p>							
<p>CLASS VI. (<i>Fracture, Dislocation, &c., of Lower Limb.</i>)</p> <p>Fractured patella Met.</p> <p>" tibia. Met.</p> <p>" fibula.</p> <p>Potts fracture. Met.</p>							

UNIVERSITY COLLEGE HOSPITAL.

PERIOD :—A Fortnight (April 27th to May 11th, 1907). TOTAL NUMBER OF CASES RECORDED :—14.

NUMBER IN CLASS I.—3; CLASS II.—2; CLASS III.—2; CLASS IV.—1; CLASS V.—1; CLASS VI.—5.

(These cases were believed to be *all* those occurring in streets or public places conveyed to the Hospital in the above period; but it was stated that the number appeared to be below the average.)

PARTICULARS OF CASES.										OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)			
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.	
[Num- ber.]	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num- ber.	9.	10.	11.	12.		
								Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.		
1	M.	CLASS I. (Minor Injuries.)					1						
2	M.	Bruised shoulder (drink). ...	Litter. ... (10)	5	Met.	—	2	—	—	—	—		
3	M.	Abrasion of knee. ...	Cab.	4	—	—	3	—	—	—	—		
		"Slight." ...	Carried by 6 men.	1	—	—		—	—	—	—		
4	M.	CLASS II. (Illness.)					4	—	—	—	—		
5	F.	Epileptic fit, slight graze of forehead.	Litter. ... (5)	15	Met.	—	5	—	—	—	—		
		Fit (? epilepsy). ...	Litter.	10	—	—		—	—	—	—		
6	M.	CLASS III. (Wounds, Hæmorrhage.)					6	—	—	—	—		
		Punctured wound of thigh (impaled on railings).	Van.	5	—	Private. ... (9)		—	—	—	—		
7	F.	Hæmorrhage from carcinoma- tous uterus.	Cab.	5	—	Not possible.	7	—	—	—	—		
8	M.	CLASS IV. (Internal Injuries, &c.)					8	Doubtful whether prejudiced. ...	—	—	—	Would have been advisable.	
		Fractured ribs, large hæma- toma.	Cab.	15	—	—							
9	M.	CLASS V. (Fracture of Upper Limb.)					9	—	—	—	—		
		Fractured radius (slight) ...	Cab.	5	—	—							
10	M.	CLASS VI. (Fracture, Dislo- cation, &c., of Lower Limb.)					10	—	—	—	—		
11	M.	Fracture of femur. ...	Cab.	15	—	—	11	—	—	—	—		
		Compound fracture of tibia...	Van.	20	—	—				Prejudiced slightly by lack of First Aid.	Ordinary First Aid would have been sufficient.		
12	M.	Sprained ankle. ...	Cab.	15	—	—	12	—	—	—	—		
13	M.	Sprained foot. ...	Van.	5	—	Private. ... (9)	13	—	—	—	—		
14	M.	Sprained foot. ...	Van.	5	—	Private. ... (9)	14	—	—	—	—		

PERIOD :—One Month (April 14th to May 13th, 1907). TOTAL NUMBER OF CASES RECORDED :—15.

NUMBER IN CLASS I.—3; CLASS II.—2; CLASS III.—3; CLASS IV.—5; CLASS V.—2; CLASS VI.—Nil.

(These are stated to be *all* the cases, occurring in streets or public places, conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.													OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)				
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		11.	12.	13.					
Num-ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num-ber.	9.	10.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.					
		CLASS I. (<i>Minor Injuries.</i>)					1	—	—	—	—	—					
1	M.	Contusion, slight (run over).	Cart.	10	—	—	2	—	—	—	—	—					
2	M.	Contusion, slight (run over).	Brougham.	3	Met.	—	3	—	—	—	—	—					
3	M.	Abrasion of knee, slight cuts on chin.	Van.	few	Met.	Police.		—	—	—	—	—					
		CLASS II. (<i>Illness.</i>)					4	—	—	—	—	—					
4	M.	Fit.	Litter. ... (3)	5	Met.	—	5	Slowness probably not pre-ju- dicial.	—	—	—	Absence of attention probably not preju- dicial.					
5	F.	Epileptic fits (succession of)...	Litter. ... (20)	10	Met.	Doctor. ... (5)		—	—	—	—	—					
		CLASS III. (<i>Wounds, Hemor- rhage, &c.</i>)					6	—	—	—	—	—					
6	M.	Cuts and contusion of lower limbs (fairly severe).	Litter. ... (4)	4	Met.	—		—	—	—	—	—					
7	M.	Cerebral hemorrhage.	Litter. ... (5)	15	Met.	—	7	—	—	—	—	—					
8	M.	Hemoptysis.	Litter. ... (10)	10	Met.	Doctor.	8	—	—	—	—	Vital need for such attention.					
		CLASS IV. (<i>Head and Inter- nal Injuries.</i>)					9	—	—	—	—	—					
9	M.	Scalp wound (severe).	Litter. ... (10)	25	Met.	Doctor. ... (10)	10	—	—	—	—	—					
10	M.	Scalp and face wound.	Litter. ...	10	Met.	Police.	11	—	—	—	—	—					
11	M.	Fractured ribs.	Litter. ... (0)	40	Met.	—	12	—	—	—	—	—					
12	M.	Fractured ribs.	Litter. ... (15)	30	Met.	Doctor. ... (10)	13	—	—	—	—	—					
13	M.	Contusion of abdomen.	Litter. ... (10)	10	Met.	Police.		—	—	—	—	—					
		CLASS V. (<i>Fracture of Upper Limb.</i>)					14	—	—	—	—	—					
14	F.	Compound fracture of humerus	Carriage.	3	Met.	Doctor. —	15	—	—	—	—	—					
15	M.	Fracture (greenstick) of radius and ulna.	Cart.	20	—	—		—	—	—	—	—					
		CLASS VI. (<i>Fracture of Lower Limb.</i>)															
		(No cases.)															

Appendix I.: Table (B.)—*contd.*

ST. GEORGE'S HOSPITAL. (See also below p. 78.)

PERIOD :—Just over two Months (April 29th to July 3rd, 1907.) TOTAL NUMBER OF CASES RECORDED :—18.

NUMBER IN CLASS I.—Nil ; CLASS II.—1 ; CLASS III.—1 ; CLASS IV.—8 ; CLASS V.—Nil ; CLASS VI.—8.

(The total number of cases occurring, and conveyed to this Hospital, appears rather doubtful. It was considered that during this period record had probably been kept of *nearly all* ; but the number so recorded is 18 in two months, while in a further return (see below, p. 78) made during September, 1907, 29 cases were recorded in the one month, and these were considered to be about *two-thirds* of the whole.)

PARTICULARS OF CASES.			OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)									
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		11.	12.	13.
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Approxi- mate Distance to Hospital. (Miles.)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num- ber.	Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.
		CLASS I. (<i>Minor Injuries.</i>) (No cases.)										
		CLASS II. (<i>Illness.</i>)										
1	M.	Fit and cut face.	Trolley.	$\frac{1}{4}$ mile.	Met.	Police & Doctor.	1	Trolley suitable for this case. ...	—	—	—	—
2	M.	CLASS III. (<i>Wounds, &c.</i>) Cut throat (dangerous). ...	Litter.	$\frac{1}{2}$ mile.	Met.	Police & Doctor.	2	Quicker transit desirable.	—	—	—	Absence of such attention might have prejudiced such a case.
3	M.	CLASS IV. (<i>Head, Internal Injuries, Shock, &c.</i>) Fractured skull (dangerous).	Motor Car.	$\frac{1}{2}$ mile.	—	—	3	Possibly prejudiced.	Ambulance. ...	—	—	—
4	F.	Abdominal injury, run over (severe).	Motor Cab.	$\frac{1}{2}$ mile.	Met.	Police.	4	Possibly prejudiced.	Rapid Ambulance	—	—	—
5	M.	Fractured pelvis (severe). ...	Van.	2 $\frac{1}{2}$ miles.	Met.	Doctor.	5	Possibly prejudiced.	Rapid Ambulance preferable.	—	—	—
6	M.	Injury to pelvis (? fracture) (severe).	Cab.	$\frac{3}{4}$ mile.	Met.	—	6	Probably prejudiced.	Litter, or pre- ferably rapid Ambulance.	—	—	—

CLASS IV.—Continued.									
7	M.	Internal injuries (severe), ...	Motor Car.	$\frac{3}{4}$ mile.	Met.	—	—	Ambulance more suitable.	—
8	M.	Internal injuries (severe), ...	Cab.	$\frac{3}{4}$ mile.	—	Possibly prejudiced.	...	Ambulance more suitable.	—
9	M.	Injury to back (fall from window), (not severe).	Van.	$1\frac{3}{4}$ miles.	—	Probably not prejudiced.	...	Litter or Stretcher suitable.	—
10	M.	Concussion (severe), ...	Litter.	$\frac{3}{4}$ mile.	Met.	—	—	—	—
CLASS V. (Fracture of Upper Limb.)									
(No cases.)									
CLASS VI. (Fracture, &c., of Lower Limb.)									
11	M.	Fractured thigh (severe), ...	Motor Car.	2 miles.	Met.	Police & Doctor.	—	Rapid Ambulance preferable.	—
12	M.	Fractured thigh and leg (severe)	Van.	$1\frac{1}{2}$ miles.	Met.	—	Prejudiced.	Litter. ...	Prejudiced by lack of First Aid.
13	M.	Compound fracture of leg (severe).	Litter.	2 miles.	Met.	Doctor.	—	—	—
14	M.	Fractured leg (severe), ...	Cab.	$2\frac{1}{2}$ miles.	—	—	Possibly prejudiced.	Litter suitable.	—
15	M.	" leg (severe), ...	Cab.	1 mile.	—	—	—	Litter desirable.	—
16	F.	" leg (severe), ...	Cab.	$1\frac{1}{2}$ miles.	Met.	—	Probably prejudiced slightly.	Litter suitable.	First Aid desirable, Ordinary First Aid
17	F.	" ankle (severe), ...	Cab.	$1\frac{3}{4}$ miles.	—	Doctor.	—	Litter more suitable.	—
18	M.	Crushed foot (severe), ...	Train and litter	$3\frac{1}{2}$ miles.	—	—	—	—	—

NOTE.—The following remarks were appended:—

With regard to the patient's condition being prejudiced by the nature of the conveyance, "probably" and "possibly" indicate that the patient's condition would be likely to or might suffer, and that serious results might have occurred, but not necessarily that they did occur. Each case cannot be judged on its own merits, and a certain answer cannot be given.

In most cases if an Ambulance cannot be quickly obtained, it is important that the patient be brought to Hospital quickly by the best means possible.

Appendix I.: Table (B).-- contd.

THE GREAT NORTHERN CENTRAL HOSPITAL.

(See also below p. 80.)

PERIOD :—Three Weeks (April 29th to May 20th, 1907). TOTAL NUMBER OF CASES RECORDED :—23.

NUMBER IN CLASS I.—5; CLASS II.—3; CLASS III.—1; CLASS IV.—5; CLASS V.—1; CLASS VI.—8.

(These are stated to be all the cases, occurring in streets or other public places, conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.				OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)								
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.
Num-ber.	Patient—Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey (Minutes) unless stated.)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)	Num-ber.	9.	10.	11.	12.	
								Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Attention on the Journey.
1	M.	CLASS I. (Minor Injuries.) Slight injury to leg. ... " " to foot. ... " " to knee and hand. ... " " to finger. ... Synovitis of knee (slight). ...	Cart.	15	Met.	—	1	... ..	(No opinions expressed in this case.) ...	... ..	... ..	—
2	M.		Cab.	30	—	—	2	—	—	—	—	—
3	M.		Motor car.	5	Met.	—	3	—	—	—	—	—
4	M.		Van.	20	Met.	—	4	—	—	—	—	—
5	M.		Tramcar.	30	Met.	Police. ... (5)	5	—	—	—	—	—
6	M.	CLASS II. (Illness.) Fit (slight). ... Uræmia (fatal). ... Intoxicated. ...	Litter.	20	Met.	—	6	... ..	(No opinions expressed in this case.) ...	... ..	... ..	—
7	M.		Litter. ... (10)	5	—	—	7	—	—	—	—	Vital need for such attention.
8	F.		Litter.	35	Met.	—	8	—	—	—	—	—

CLASS III. (<i>Wounds, &c.</i>)									
9	M.	Bruised arm and leg. ...	Litter.	35	Met.	Private. ... (5)	9	... ..	(No opinions expressed in this case.) ...
CLASS IV. (<i>Head Injuries, &c.</i>)									
10	M.	Injury to head. ...	Cab.	2 hrs. (?)	—	Doctor.	13	... ..	(No opinions expressed in this case.) ...
11	M.	" to head. ...	Van.	10	Met.	—	11	... ..	—
12	M.	" to head & face (slight).	Litter.	1 hr.	Met.	Doctor.	12	... ..	—
13	M.	" to head and ribs. ...	Motor Car.	20	Met.	Doctor.	13	... ..	—
14	M.	Scalp wound (severe). ...	Cab.	1 hr. 5m.	Met.	Police, ... (5) then Doctor.	14	... ..	—
CLASS V. (<i>Fracture of Upper Limb.</i>)									
15	M.	Fracture of arm ...	Litter.	30	Met.	—	15	... ..	—
CLASS VI. (<i>Fracture, &c., of Lower Limb.</i>)									
16	M.	Fracture of thigh. ...	Cart.	15	—	—	16	... ..	—
17	M.	" of patella. ...	Litter.	1 h. 55 m.	Met.	Doctor. ... (15)	17	... ..	—
18	M.	" of leg. ...	Van.	25	—	—	18	... ..	—
19	M.	" of leg (severe). ...	Cab.	2 hrs. (?)	—	—	19	... ..	—
20	M.	" of leg. ...	Litter.	35	Met.	—	20	Prejudicial. ...	Prejudiced seriously by absence of First Aid.
21	M.	" of leg. ...	Motor Car.	45	Met.	(?)	21	Unsuitable. ...	Motor Ambulance desirable.
22	M.	Injury to leg. ...	Litter.	50	Met.	—	22	... ..	(No opinions expressed in this case.) ...
23	M.	Injury to leg. ...	Pony Barrow.	30	—	—	23	... ..	(No opinions expressed in this case.) ...

THE METROPOLITAN HOSPITAL.

Appendix A.: Table (B.)—contd.

PERIOD :—6½ Weeks (April 25th to June 9th, 1907). TOTAL NUMBER OF CASES RECORDED :—22.
NUMBER IN CLASS I.—3; CLASS II.—1; CLASS III.—3; CLASS IV.—11; CLASS V.—1; CLASS VI.—3.
(These cases are stated to represent nearly all those occurring in streets or public places, conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.				OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)								
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		11.	12.	13.
Num- ber.	Patient — Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (if any, by whom (Not a Police Person). Case unless stated.)	First Aid (Doctor, Police or Private Person). Time before Arrival. (Minutes.)	Num- ber.	Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.
								9.	10.	11.	12.	13.
								Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.
1	M.	CLASS I. (Minor Injuries.)					1					
2	M.	Bruised arm and thigh (slight).	Tramcar.	Few.	Met.	—	2	—	—	—	—	—
3	M.	Cut hand (slight).	Tramcar.	—	—	—	3	... .. (No opinions expressed in this case.) ... ..	... ..	... ..	... ..	—
		Slight injury.	Latter.	½ mile.	Met.	Police. ... (10)		... ..	—	—	—	—
4	M.	CLASS II. (Illness.)					4					
		Fits....	Hospital Ambulance.	3	Met.	—			—	—	—	—
5	M.	CLASS III. (Wounds, Hemorrhage, &c.)					5					
6	M.	Cut thigh and hand.	Trap. Carried.	5	Met.	—	6	—	—	—	—	—
7	M. (child)	Scald, leg.	Carried.	10	Met.	—	7	... .. (No opinions expressed in this case.) ... ..	... ..	... ..	... ..	—
		Dog bite.	Carried.	3	Met.	—		... ..	—	—	—	—

Appendix I.: Table (B.)—contd. **THE PRINCE OF WALES'S GENERAL HOSPITAL (TOTTENHAM).**

PERIOD :—Slightly over one Month (April 27th to May 30th, 1907). TOTAL NUMBER OF CASES RECORDED :—**17.**

NUMBER IN CLASS I.—Nil; CLASS II.—3; CLASS III.—Nil; CLASS IV.—7; CLASS V.—1; CLASS VI.—6.

(These are stated to be *all* the cases, occurring in streets and public places, conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.							OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)						
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		First Aid.		13.	
Num- ber.	Patient — Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance (Minutes.)	Time on Journey (Minutes)	Police, (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), Time before Arrival. (Minutes.)	Num- ber.	9.	10.	11.	12.		
								Whether case prejudiced thereby. Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.	
1	—	CLASS I. (<i>Minor Injuries.</i>) (No cases.) CLASS II. (<i>Illness.</i>) Gangrenous appendicitis. ...	Cart.	35	—	—	1	Considerably.	Litter suitable.	—	—	Advisable; absence not necessarily pre- judicial. Would have been better; case pre- judiced. —	
2	F.	Corrosive poisoning (dangerous)	Stretcher. (30)	40	Met.	Doctor. ... (10)	2	Seriously (slowness).	Rapid Ambulance	Possibly efficient. ...	—		
3	F.	Epileptic fit (severe).	Litter. (3)	3	Met.	—	3	—	—	—	—		
4	F.	CLASS III (<i>Wounds, Hæm-orrhage. &c.</i>) (No cases.) CLASS IV. (<i>Head, Internal Injuries Shock, &c.</i>) Injury to side, shock, abrasions of face and hands.	Litter. ... (25)	15	Met.	Doctor. ... (20)	4	—	—	—	—	—	
5	M.	Run over abdomen, shock. ...	Litter. ... (2)	10	Met.	—	5	—	—	—	—	—	
6	F.	Fracture of base of skull. ...	Cart.	15	Met.	—	6	Prejudicial.	Litter suitable.	—	—	Absence of attention possibly not pre- judicial.	

THE WEST HAM AND EAST LONDON HOSPITAL.

PERIOD :—One Month (September 30th to October 28th, 1907).

TOTAL NUMBER OF CASES RECORDED :—9.

NUMBER IN CLASS I.—1; CLASS II.—3; CLASS III.—Nil; CLASS IV.—2; CLASS V.—Nil; CLASS VI.—3.

(These are stated to be *all* the cases, occurring in streets or other public places, conveyed to the Hospital in the above period.)

PARTICULARS OF CASES.													OPINIONS EXPRESSED AS TO THE TREATMENT. (Case not considered to have been prejudiced by the mode of removal unless it is so stated.)				
1.	2.	3.	4.	5.	6.	7.	8.	Mode of Conveyance.		11.	12.	13.					
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance (Minutes).	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated).	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes).	Num- ber.	Whether case prejudiced thereby, Remarks, &c.	Requirement.	Fault (if any), Remarks, &c.	Requirement.	Expert Medical Atten- tion on the Journey.					
1	M.	CLASS I. (<i>Minor Injuries.</i>) Contused arm and thigh. ...	Motor Car.	3	—	—	1	—	—	—	—	—					
2	M.	CLASS II. (<i>Illness.</i>) Fit (hysterical). ...	Carried.	3	Met.	—	2	—	—	—	—	—					
3	M.	Alcoholism : fracture of nasal bones.	Litter.	5	—	Doctor.	3	—	—	—	—	—					
4	M.	Poisoning (oxalic acid). ...	Litter.	15	Met.	Police.	4	—	—	—	—	—					
5	F. (aged 78)	CLASS III. (<i>Wounds, &c.</i>) (No cases.)	Litter.	12	—	Doctor.	5	Slightly. (Had to be sent on to Infirmary, 3 miles, by same con- veyance.)	Rapid Ambulance	—	—	—					
6	M.	Concussion and scalp wound.	Litter.	—	Met.	Police.	6	—	—	—	—	—					
7	M. (child of 3).	CLASS IV. (<i>Internal Injuries, Concussion, &c.</i>) Concussion and scalp wound.	Cab.	30	—	—	7	Little, if at all. ...	—	—	—	—					
8	F.	CLASS V. (<i>Fracture of Upper Limb.</i>) (No cases.) CLASS VI. (<i>Fracture, &c., of Lower Limb.</i>) Fractured femur (simple). ...	Cab.	—	—	—	8	Yes, prejudiced. (Had to be sent home in cab. No vacant bed.)	Either Litter or rapid Ambu- lance (distance short.)	—	—	—					
9	M.	Fractured neck of femur. ...	Litter.	10	—	—	9	—	—	—	—	—					

APPENDIX 1.: TABLE (C).

(Particulars of cases without expression of any opinions.)

ST. THOMAS'S HOSPITAL.

PERIOD:—One Month (September 18th to October 18th, 1907).

TOTAL NUMBER OF CASES RECORDED:—53.

NUMBER IN CLASS I.—14; CLASS II.—8; CLASS III.—4; CLASS IV.—16; CLASS V.—2; CLASS VI.—9.

(These are stated to be *all* the cases, occurring in streets or public places, conveyed to the Hospital in the above period).

1.	2.	3.	4.	5.	6.	7.
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)
CLASS I. (Minor Injuries.)						
1	M.	Abrasion of knee and leg (slight). ...	Litter. ... (10)	15	Met.	—
2	F.	Bruised chin (slight). ...	Cab.	5	Met.	—
3	—	Slight injury to face. ...	Motor Cab.	10	—	—
4	M.	„ „ chest. ...	Tramcar.	15	Met.	—
5	M.	„ „ leg and arm. ...	Van.	10	—	—
6	—	„ „ shoulder. ...	Cab.	10	Met.	—
7	M.	„ „ leg. ...	Motor Cab.	5	Met.	—
8	M.	„ „ leg. ...	Cab.	15	—	Railway Porter
9	M.	„ „ leg. ...	Van.	5	Met.	—
10	M.	„ „ leg. ...	Van.	10	Met.	—
11	M.	„ „ ankle. ...	Van.	15	—	—
12	M.	„ „ foot. ...	Van.	10	Met.	—
13	M.	„ „ foot. ...	Cab.	15	—	—
14	M.	Cut face, contusions (slight). ...	Van.	10	Met.	—
CLASS II. (Illness.)						
15	M.	Fit (slight). ...	Litter. ... (1)	10	Met.	—
16	M.	Fit (slight). ...	Litter. ... (5)	10	Met.	—
17	M.	Fit (slight). ...	Litter. ... (3)	8	Met.	—
18	M.	Fit (slight). ...	Van.	10	Met.	—
19	M.	Fit (slight). ...	Tramcar.	30	—	—
20	F.	Poisoning (laudanum).§ ...	Railway Ambu- lance. ... (0)	10	—	Railway Police.
21	F.	Poisoning.§ ...	Cab.	20	Met.	Doctor.
22	M.	Abdominal pain (severe). ...	Tramcar.	10	Met.	—
CLASS III. (Wounds, Hæmorrhage, &c.)						
23	M.	Cut hand (severe). ...	Cab.	30	—	—
24	F.	„ chin, bruised arm (severe). ...	Litter. ... (0)	15	Met.	—
25	M.	„ knee (severe).§ ...	Cab.	10	—	—
26	M.	„ tendon. ...	Van.	10	—	—
CLASS IV. (Head, Body and Internal Injuries, Shock, &c.)						
27	M.	Cut head (severe). ...	Litter. ... (10)	20	Met.	—
28	M.	Injury to head (severe). ...	Van.	5	Met.	—
29	M.	Injury to head and fractured pelvis (severe).§	Litter. ... (10)	5	Met.	—
30	F.	Cut head (slight). ...	Litter. ... (5)	15	Met.	—
31	M.	Cut head (slight). ...	Cab.	10	Met.	—
32	M.	Cut head (slight). ...	Litter. ... (10)	30	Met.	Doctor.
33	F.	Injury to head (slight).‡ ...	Litter. ... (5)	5	Met.	—
34	M.	Scalp wound (slight). ...	Litter. ... (3)	15	Met.	—
35	M.	Fractured ribs (severe). ...	Cab.	10	—	—
36	F.	Abdominal injury (severe).§	Litter. ... (10)	30	Met.	Doctor.
37	M.	Abdominal injury (severe).§	Railway Stretcher. ... (5)	15	Met.	—
38	—	Abdominal injuries (severe).§	Tramcar.	20	—	—
39	M.	Injury to back and hip (severe). ...	Litter. ... (5)	1 hour.	Met.	—
40	M.	Injury to chest (severe).§	Motor Car.	10	Met.	—
41	M.	Injury to shoulder. ...	Cab.	40	—	—
42	M.	Concussion and scalp wound (severe).§	M.A.B.† Ambu- lance. ... (25)	30	Met.	Doctor.
CLASS V. (Fracture, &c., of Upper Limb.)						
43	M.	Fracture of radius and ulna. ...	Cab.	5	Met.	—
44	—	Injuries to hand. ...	Tramcar.	15	Met.	—
CLASS VI. (Fracture, &c., of Lower Limb.)						
45	M.	Fractured femur (severe).§	M.A.B.† Ambu- lance. ... (45)	15	—	Nurse.
46	F.	Compound fracture of tibia and fibula (severe).§	Cab. (Did not await arrival of Police with Litter.)	30 (?)	—	—
47	M.	Fracture of tibia and fibula.§	M.A.B.† Ambu- lance. ... (1 hr.)	25	Met.	Doctor.
48	M.	Fractured leg (severe).§	Litter. ... (10)	1 hour.	Met.	Doctor.
49	M.	„ leg (severe).§	Van.	10	Met.	—
50	M.	„ leg.§	Litter. ... (10)	30	Met.	—
51	F.	„ leg.§	Litter. ... (3)	10	Met.	Surgeon.
52	F.	Injury to leg (severe).§	Litter. ... (10)	10	Met.	—
53	M.	Injury to foot. ...	Cab.	5	Met.	—

§ Case admitted to Hospital.

‡ Case sent to Infirmary.

† M.A.B.=Metropolitan Asylums Board (vehicular ambulance).

Appendix I. : Table (C.)—contd.**WESTMINSTER HOSPITAL.**

PERIOD :—One Month (September 9th to October 8th, 1907).

TOTAL NUMBER OF CASES RECORDED :—**37.**

NUMBER IN CLASS I.—5 ; CLASS II.—7 ; CLASS III.—12 ; CLASS IV.—8 ; CLASS V.—Nil ; CLASS VI.—5.

(These are stated to be *all* the cases, occurring in streets or public places, conveyed to the Hospital in the above period).

1. Num- ber.	2. Patient —Male or Female	3. Nature of Injury or Illness.	4. Conveyance and Time before arrival of Ambulance. (Minutes).	5. Time on Journey. (Minutes)	6. Police. (Not a Police Case unless stated).	7. First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes).
CLASS I. (Minor Injuries.)						
1	M.	Bruised face and knees (slight).	'Bus.	10	Met.	—
2	F.	Bruised leg and back (slight).	Cab.	Taken home first. 1	—	Doctor.
3	M.	Injury to back (slight).	Cab.	15	Met.	—
4	F.	Cut elbow (slight).	Cab.	15	Met.	—
5	M.	Burn on face (slight).	Cab.	15	Met.	Police.
CLASS II. (Illness.)						
6	M.	Fit.	Cab.	15	—	Private.
7	M.	Fit.	Stretcher.	20	—	Park-keeper.
8	F.	Fit.	Litter.	10	Met.	—
9	M.	Fit.	Litter.	20	Met.	—
10	F.	Fit.	Barrow.	10	—	—
11	M.	Fit.	Cab.	15	Met.	—
12	M.	Attempted suicide (? immersion).	Litter.	20	Met.	Private.
CLASS III. (Wounds, Hæmorrhage, &c.)						
13	M.	Ruptured vein in leg.	Cab.	15	—	—
14	M.	Cut hand.	Van.	20	—	Private.
15	F.	Cut nose	Cab.	15	—	—
16	M.	Cut forehead (slight).	Van.	10	—	—
17	M.	Cut forehead (slight).	Cab.	10	—	Private.
18	M.	Scalp wound (slight).	Cab.	10	Met.	—
19	M.	Scalp wound (slight).	Van.	15	—	—
20	M.	Cut head (slight).	Cab.	15	—	—
21	M.	Scalp wound.	Stretcher.	5	Met.	—
22	M.	Burnt hand.	Motor Car.	20	—	—
23	M.	Crushed finger.	Van.	10	—	—
24	M.	Injury to eye.	Cab.	15	—	—
CLASS IV. (Head, Internal Injuries, Shock, &c.)						
25	M.	Fractured base of skull (run over).	Cab.	15	Met.	—
26	M.	Fractured ribs.	Cab.	15	Met.	—
27	M.	Run over, slight injury.	Carriage.	20	Met.	—
28	—	Run over, slight injury.	Litter.	10	Met.	Police.
29	M.	Slight shock (run over by cab).	Cab.	10	Met.	—
30	M.	Badly shaken.	Cab.	5	—	—
31	M.	Concussion.	Litter.	10	Met.	—
32	M.	Concussion and scalp wound.	Cab.	5	—	—
CLASS V. (Fracture of Upper Limb.)						
(No cases.)						
CLASS VI. (Fracture, &c., of Lower Limb.)						
33	F.	Fracture of leg.	Litter.	10	Met.	—
34	M.	Potts fracture.	Cab.	15	—	—
35	F.	Sprained ankle.	Litter.	10	Met.	—
36	M.	Crushed foot.	Carriage.	10	—	Private.
37	M.	Crushed foot.	Cab.	10	Met.	—

Appendix I.: Table (C.)—contd.

THE POPLAR HOSPITAL FOR ACCIDENTS.

(See also above p. 65.)

PERIOD:—One Month (August 22nd to September 22nd, 1907.)

TOTAL NUMBER OF CASES RECORDED:—50.

NUMBER IN CLASS I.—5; CLASS II.—4; CLASS III.—9; CLASS IV.—16; CLASS V.—2; CLASS VI.—14.

(These are stated to be *all* the cases of accident and illness, occurring in streets, other public places, or docks, conveyed to the Hospital in the above period.)

1.	2.	3.	4.	5.	6.	7.
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)
CLASS I. (Minor Injuries.)						
1	—	Contused foot (—).*	Carried.	5	Met.	—
2	—	Contused leg (—).*	Litter. ... (15)	20	—	—
3	—	Contused leg and arm (O.P.).†	Carried.	3	—	—
4	—	Injury to foot (—).*	Carried.	15	—	—
5	—	Alleged injury to knee (—).*	Cart.	5	Met.	—
CLASS II. (Illness.)						
6	—	Fit (epileptic) (—).*	Litter. ... (30)	10	Met.	Doctor.
7	—	Intestinal obstruction (Adm.).‡	Litter. ... (5)	5	Met.	—
8	—	Retention (—).*	Barrow.	20	—	—
9	—	Drink (—).*	Litter. ... (10)	10	Met.	—
CLASS III. (Wounds, &c.)						
10	—	Lacerated arm and hand (Adm.).‡	Van.	15	—	—
11	—	Lacerated wound of forehead (O.P.).†	Litter. ... (0)	25	Met.	—
12	—	Lacerated buttock (O.P.).†	Van.	15	—	—
13	—	Wound of scalp and chin (O.P.).†	Van.	3	Met.	—
14	—	Lacerated and abraded leg (—).*	'Bus.	15	Met.	—
15	—	Cut thigh (O.P.).†	Carried.	15	—	—
16	—	Cut hip and arm (O.P.).†	Van.	10	Met.	—
17	—	Divided median nerve (?) (Adm.).‡	Cab.	30	—	Doctor.
18	—	Dog bite (forehead) (O.P.).†	Carried.	5	Met.	—
CLASS IV. (Head, Internal Injuries, Concussion, &c.)						
19	—	Fractured base of skull (Adm.).‡	Litter. ... (25)	40	Met.	Divisional Surgeon.
20	—	Fractured base of skull (Adm.).‡	Van.	15	Met.	Doctor.
21	—	Injury to head (—).*	Carried.	5	Met.	—
22	—	Abraded forehead (—).*	Carried.	3	Met.	Police.
23	—	Cut head (O.P.).†	Carried.	At once.	—	—
24	—	Fractured superior maxilla (Adm.).‡	Cart.	15	Met.	Police.
25	—	Fractured spine and ribs (Adm.).‡	Litter. ... (3)	20	Met.	Doctor.
26	—	Fractured clavicle (O.P.).†	Van.	5	—	—
27	—	Injury to back (—).*	Litter (Hospital). (10)	10	Met.	—
28	—	Injury to shoulder, &c. (—).*	Motor Car.	5	Met.	—
29	—	Contused abdomen (O.P.).†	'Bus.	10	Met.	Doctor.
30	—	Hernia (Adm.).‡	Litter. ... (10)	15	Met.	—
31	—	Knocked down by trap (—).*	Carried.	At once.	Met.	—
32	—	Run over: abraded thigh (—).*	Van.	15	—	—
33	—	Concussion (Adm.).‡	Litter. ... (5)	5	Met.	—
34	—	Concussion (Adm.).‡	Litter.	10	Met.	Police.
CLASS V. (Fracture, &c., of Upper Limb.)						
35	—	Fractured radius and ulna (O.P.).†	Train.	20	—	Cottage Hospital Matron.
36	—	Crushed fingers (O.P.).†	Carried.	5	—	—
CLASS VI. (Fracture, &c., of Lower Limb.)						
37	—	Compound fracture of femur (Adm.).‡	Van.	10	Met.	Doctor.
38	—	Fractured femur (Adm.).‡	(1) Carried. (2) Walked. (3) Barrow.	(1) — (2) — (3) Met	}	—
39	—	Fractured femur (Adm.).‡	Cart.	15	Met.	
40	—	Compound fracture of tibia and fibula (Adm.).‡	Barrow.	10	Met.	
41	—	Fractured tibia and fibula (Adm.).‡	Van.	10	—	—
42	—	" tibia and fibula (Adm.).‡	Cart.	3	—	—
43	—	" tibia and fibula (Adm.).‡	Litter (Dock). ... (3)	5	Dock.	Dock Police.
44	—	" tibia and fibula (Adm.).‡	Cab.	25	—	Private.
45	—	" tibia and fibula (Adm.).‡	Cab.	5	—	Private.
46	—	" tibia and fibula (Adm.).‡	Litter. ... (20)	30	Met.	Police.
47	—	" tibia (Adm.).‡	Carried.	10	—	—
48	—	" fibula (Adm.).‡	Litter. ... (10)	20	—	Private.
49	—	Sprained ankle (O.P.).†	Cab.	20	—	—
50	—	Crushed foot (O.P.).†	Litter. ... (3)	20	—	Private.

* (—) Signifies that the case required only summary treatment.

† (O.P.) Signifies that the case was admitted as Out-Patient.

‡ (Adm.) Signifies that the case was admitted to Hospital.

Appendix I: Table (C.)—contd.**ST. GEORGE'S HOSPITAL.**

(See also above p. 66.)

PERIOD:—One Month (September 1st to October 2nd, 1907).

TOTAL NUMBER OF CASES RECORDED:—**29.**

NUMBER IN CLASS I.—1; CLASS II.—9; CLASS III.—7; CLASS IV.—10; CLASS V.—Nil; CLASS VI.—2.

(This number is stated to represent about *two-thirds* of the cases, occurring in streets or other public places, conveyed to the Hospital in the above period.)

1.	2.		4.	5.	6.	7.
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance (Minutes.)	Time on Journey. (Minutes.)	Police, (Not a Police Case unless stat d.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)
CLASS I. (Minor Injuries.)						
I	M.	Bruised knees.	Van.	—	Met	—
CLASS II. (Illness.)						
2	M.	Fit (? epileptic) (not serious).	Litter.	—	Met.	—
3	F.	Fit.	Litter. ... ..(10)	10	Met.	—
4	M.	Fit (epileptic).	Litter. ... ..(10)	15	Met.	Police (?).
5	M.	Fit.	Litter. ... ..(5)	15	Met.	Police.
6	F.	Fit (not severe).	Litter. ... ..(10)	10	Met.	—
7	F.	Fit.	Litter. ... ..(3)	1 hr.	Met.	Doctor.
8	F.	Apoplexy.	Litter. §	Few	Met.	—
9	M.	Angina pectoris (serious)	Litter. ... ..(5)	10	Met.	Police.
10	M.	Acute alcoholism.	Litter. ... ..(5)	5	Met.	—
CLASS III. (Wounds, Hemorrhage, &c.)						
11	M.	Cut throat (serious).	Stretcher ... ..(3)	10	Met.	—
12	M.	Ruptured varicose veins.	Cab.*	—	Met.	—
13	M.	Scalp wound.	Engine and Cab.*	20	Met.	—
14	M.	Cut wrist.	Cab.	5	—	Doctor.
15	F.	Hæmatoma of leg and bruised side (not severe).	Motor.	5	—	—
16	F.	Hæmatoma of forehead, bruised nose and foot.	Cab.	—	Met.	—
17	M.	Burn.	Cab.	10	Met.	—
CLASS IV. (Head, Internal Injuries, Shock, &c.)						
18	M.	Cut head.	Cab.*	5	Met.	Police.
19	M.	Cut head and concussion (severe).	Cab.*	10	Met.	—
20	M.	Fractured pelvis, ruptured urethra (dan- gerous).	Litter. ... ..(5)	5	Met.	—
21	M.	Fractured rib, arm, and clavicle (severe).	Litter. ... ..(15)	40	Met.	Police (?).
22	M.	Fractured clavicle.	Cab.	—	Met.	—
23	M.	Injury to side and leg.	Cab.	10	Met.	—
24	M.	Injury to shoulder (fall).	Cab.*	20	—	—
25	M.	Shock, scalp wound, bruised leg (severe).	Motor Cab.*	5	Met.	—
26	M.	Concussion and alcoholism (severe).	Cab.*	—	Met.	Doctor.
27	M.	Fatal injury (unspecified).	Cab.*	—	Met.	—
CLASS V. (Fracture of Upper Limb.)						
(No cases.)						
CLASS VI. (Fracture, &c., of Lower Limb.)						
28	M.	Fractured leg (serious).	Motor Cab.	10	—	Private.
29	M.	Injury to leg.	Van.	20	Met	—

NOTE.—The mode of conveyance in the cases marked () in Col. 4 (that is in Nos. 12, 13, 18, 19, 24, 25, 26, 27) was considered *unsuitable*. In case No. 12 attention is drawn to the fact that First Aid was not applied. In Case No. 27 the injured person arrived at the Hospital dead.

§ In case No. 8 the remark is made that though no harm was suffered by reason of the mode of conveyance (the distance being quite short), every moment was important, and the case was "typically one for a Motor Ambulance."

Appendix I: Table (C.)—contd.**KING'S COLLEGE HOSPITAL.**

PERIOD:—3½ Weeks (April 30th to May 24th, 1907).

TOTAL NUMBER OF CASES RECORDED:—**21.**

NUMBER IN CLASS I.—Nil; CLASS II.—12; CLASS III.—1; CLASS IV.—4; CLASS V.—Nil; CLASS VI.—4.

(These are stated to be *all* the cases, occurring in streets or public places, conveyed to the Hospital in the above period).

1.	2.	3.	4.	5.	6.	7.
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)
<u>CLASS I. (Minor Injuries.)</u>						
(No cases.)						
<u>CLASS II. (Illness.)</u>						
1	M.	Fit.	Litter.	15	Met.	Police.
2	F.	Fit.	Litter.	10	—	—
3	M.	Fit.	Litter.	5	Met.	Police.
4	M.	Fit.*	Ambulance (?).	10	Met.	Police.
5	M.	Fit.	Litter.	5	Met.	Police.
6	M.	Fit.	Litter.	15	Met.	Police.
7	F.	Fit.	Litter.	15	Met.	Police.
8	F.	Unconscious (?).*	Litter.	5	Met.	—
9	M.	Starvation and exposure.	Litter.	10	—	—
10	M.	Exposure.	Litter.	2	—	—
11	M.	Ill (?).	Litter.	(?)	Met.	—
12	F.	Ill (?).	Litter.	10	Met.	Police.
<u>CLASS III. (Wounds, &c.)</u>						
13	F.	Septic toe, and drink.	Litter.	2	Met.	—
<u>CLASS IV. (Internal Injuries, Shock, &c.)</u>						
14	M.	Shock (slight).	Litter.	3	Met.	Police.
15	M.	Shock and bruises.	Litter.	2	Met.	Police.
16	F.	Shock and bruises.	Litter.	5	Met.	—
17	M.	Bruised back (fall from van).	Litter.	10	—	—
<u>CLASS V. (Fracture of Upper Limb.)</u>						
(No cases.)						
<u>CLASS VI. (Fracture, Dislocation, &c., of Lower Limb.)</u>						
18	F.	Sprained knee.	Cart.	5	Met.	—
19	M.	Sprained ankle.	Cart.	10	—	—
20	M.	Run over ankle.	Litter.	10	Met.	Police.
21	M.	Crushed foot.	Litter.	5	Met.	Police.

NOTE.—In the two cases (Nos. 4 and 8), marked (), it was stated that there was vital need for expert medical attention on the journey.

Appendix I.: Table (C.)—contd.

THE GREAT NORTHERN CENTRAL HOSPITAL.

(See also above p. 68.)

PERIOD:—Seven Weeks (August 26th to October 14th, 1907).

TOTAL NUMBER OF CASES RECORDED:—44.

NUMBER IN CLASS I.—4; CLASS II.—6; CLASS III.—4; CLASS IV.—21; CLASS V.—1; CLASS VI.—8.

(These are stated to be *practically all* the cases, occurring in streets or public places, conveyed to the Hospital in the above period, and brought by the Police: probably a number of other cases have been omitted.)

1.	2.	3.	4.	5.	6.	7.
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes.)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)
CLASS I. (Minor Injuries.)						
1	M.	Slight injury to face.	Litter. (5)	15	Met.	—
2	M.	" " leg.	Cab.	25	—	—
3	—	" " leg.	Cart.	10	—	—
4	M.	" " foot.	Litter. (3)	5	Met.	Doctor.
CLASS II. (Illness.)						
5	M.	Fit.	Litter. (5)	15	Met.	—
6	F.	Fit.	Litter. (5)	20	Met.	—
7	F.	Fits.	Cab.	20	Met.	Seen by Doctor.
8	F.	Fit.	Litter. (10)	5	Met.	—
9	M.	Strangulated hernia.	Litter. (15)	25	Met.	—
10	F.	Illness (nature not specified).	Litter. (20)	12	Met.	—
CLASS III. (Wounds, &c.)						
11	M.	Cut throat.	Litter. (15)	30	Met.	Doctor.
12	M.	Scalp wound (slight).	Litter. (10)	15	Met.	—
13	M.	Kick by horse on hip.	Cab.	10	—	—
14	M.	Injury to face.	Cab.	10	—	—
CLASS IV. (Head and Internal Injuries, Shock, &c.)						
15	F.	Injury to head (slight).	Cart.	7	—	—
16	M.	" head (slight).	Van.	10	—	—
17	M.	" head (slight) (knocked down by tramcar).	Tramcar.	10	Met.	—
18	M.	" head (slight).	Litter. (25)	10	Met.	Doctor.
19	F.	Fractured skull, extradural hæmorrhage.	Perambulator (taken home first).	Day after accident	Met.	—
20	M.	Fractured base of skull.	Litter. (10)	5	Met.	—
21	M.	Injury to head (severe).	Cart.	8	Met.	—
22	M.	" head (severe).	Van.	15	—	Doctor.
23	M.	" head (severe).	Cab.	20	—	—
24	M.	" head (severe).	Litter. (20)	25	Met.	Doctor.
25	M.	" head (severe).	Cab.	7	—	—
26	F.	" head (severe) (fall from tram- car).	Litter. (5)	20	Met.	—
27	M.	" head with scalp wound (knocked down by trap).	Trap.	5	Met.	—
28	M.	" head and concussion (fall from tree).	Litter. (10)	35	Met.	Doctor.
29	M.	" head and side.	Brougham.	10	Met.	—
30	M.	" head and side (fall from van).	Van.	7	Met.	—
31	M.	" head and hand (severe).	Trolley.	10	—	—
32	M.	Slight injury (run over).	Bus.	8	—	—
33	F.	Internal injury (severe).	Carried.	2	Met.	—
34	M.	Internal injury (fall from step of tramcar).	Litter. (10)	5	Met.	—
35	M.	Injury to face and tongue (severe), (knocked down by motor car).	Litter. (5)	30	Met.	Doctor.
CLASS V. (Fracture of Upper Limb.)						
36	M.	Fractured arm.	Cab.	45	—	Seen by Doctor.
CLASS VI. (Fracture, &c., of Lower Limb.)						
37	M.	Fractured femur (run over by tram). ...	Litter. (5)	15	Met.	Doctor.
38	M.	Fractured femur.	Litter. (30)	1½ hours	Met.	Doctor.
39	M.	Fracture of bone of foot.	Litter. (2)	45	Met.	Doctor.
40	M.	Injury to leg (severe).	Tramcar.	10	Met.	Doctor.
41	M.	" leg (severe).	Litter. (13)	10	Met.	Doctor.
42	M.	" leg (severe).	Cab.	1½ hours	Met.	Doctor.
43	M.	" leg (severe).	Bus.	8	—	—
44	M.	" leg and foot (severe) (run over)	Cab.	12	—	—

Appendix I.: Table (C.)—contd.

THE LONDON TEMPERANCE HOSPITAL.

PERIOD :—One Month (September 10th to October 9th, 1907).

TOTAL NUMBER OF CASES RECORDED :—19.

NUMBER IN CLASS I.—2 : CLASS II.—4 : CLASS III.—3 ; CLASS IV.—7 ; CLASS V.—Nil ; CLASS VI.—3.

(These are stated to be *all* the cases, occurring in streets or public places, conveyed to the Hospital in the above period.)

1.	2.	3.	4.	5.	6.	7.
Num- ber.	Patient —Male or Female	Nature of Injury or Illness.	Conveyance and Time before arrival of Ambulance. (Minutes.)	Time on Journey. (Minutes)	Police. (Not a Police Case unless stated.)	First Aid (if any), by whom (Doctor, Police or Private Person), and Time before Arrival. (Minutes.)
CLASS I. (Minor Injuries.)						
1	M.	Slight bruising of hip.	Milk Cart.	15	Met.	—
2	M.	Slight bruising of thigh.	Cab.	5	—	—
CLASS II. (Illness.)						
3	M.	Fits.	Litter. ... ..(20)	10	Met.	—
4	F.	Fits (epileptic, chronic).	Litter. ... ..(0)	10	Met.	Police.
5	M.	Fits.	Litter. ... ..(20)	15	Met.	—
6	F.	Alcohol (nothing serious).	Litter. ... ..(35)	10	Met.	—
CLASS III. (Wounds, &c.)						
7	M.	Severe wound of elbow, bruises of hip and knee.	Litter. ... ..(30)	40	Met.	—
8	M.	Cut over eye (severe).	Hospital Ambu- lance. ... ..(4)	20	Met.	—
9	M.	Extensive cutaneous abrasions.	Cab.	10	—	—
CLASS IV. (Head, Internal Injuries, Shock, &c.)						
10	M.	Cut on head, bruising.	Railway van.	2	—	—
11	M.	Injury to head (fairly severe).	Cab.	3	Met.	—
12	M.	Fractured ribs ; abrasions of arm and leg.	Van.	3	Met.	—
13	M.	Fracture of ribs (fairly severe).	Brougham.	10	Met.	—
14	M.	Bruising of epigastrium and back (not severe).	L. & N.W. Railway Ambulance. ... (30)	15	—	Private.
15	M.	Kick in perineum (nothing serious).	L. & N.W. Railway Ambulance. ... (10)	10	—	—
16	M.	Very serious injury (unspecified).	Litter. ... ..(0)	5	Met.	—
CLASS V. (Fracture of Upper Limb.) (No cases.)						
CLASS VI. (Fracture, &c., of Lower Limb.)						
17	M.	Fracture of leg (severe).	Cart.	30 (To another Hospital first.)	Met.	—
18	M.	Crushed foot (serious).	L. & N.W. Railway Ambulance.	10	—	Private.
19	M.	Crushed great toe : laceration and severe local bruising.	Van.	10	—	Private.

APPENDIX II.

(Returns furnished by Sir Edward Henry, the Commissioner of Police of the Metropolis. (See Question 12.)

TABLE (A).

RETURN of the Number of ACCIDENTS to individuals in Streets within the Metropolitan Police District conveyed to Hospital or Infirmary, and the Means by which conveyed, during the 12 months ended December 31st, 1906 :—

Division.		Mode of conveyance of Persons to Hospitals or Infirmaries otherwise than by Ambulance. §											Number of Accidents in which Persons were conveyed by Ambulance to Hospital or Infirmary.		Mode of conveyance of Persons to Hospitals or Infirmaries otherwise than by Ambulance. §	
Name.	Area (Square Miles).	(1)	(2)	(3)	(4)	(5)	(6)	By passing Vehicle (help proffered by owner or driver).	By Tram Car.	By Barrow or like Vehicle.	By Omnibus.	By Train.	Able to walk (minor injuries).	Carried by Friends or Police.		Total Number of Persons conveyed by means other than Ambulance. §
														Children.	Adults.	
(Whitehall)	1.88	...	...	209	46	101	34	3	—	2	1	—	19	—	3	163
(Chelsea)	2.66	...	...	313	61	160	30	10	—	—	2	—	46	1	3	252
(St. James's)	.76	...	...	332	71	198	32	11	—	—	2	—	17	—	1	261
(Marylebone)	1.41	...	...	557	160	236	43	11	—	—	5	—	86	16	—	397
(Holborn)	.99	...	...	631	118	76	79	18	—	10	1	—	303	25	1	513
(Paddington)	2.89	...	...	229	54	132	24	17	—	—	2	—	—	—	—	175
(Finsbury)	1.84	...	...	407	88	89	86	20	1	4	1	—	96	22	—	319
(Whitechapel)	2.08	...	...	560	138	222	98	69	2	10	2	—	166	53	—	422
(Hackney)	39.24	...	...	209	175	15	46	17	—	8	3	—	2	3	—	94
(Bow)	37.28	...	...	520	243	15	101	27	5	4	7	—	115	2	1	277
(Lambeth)	2.39	...	...	624	180	160	61	17	7	3	15	—	169	12	—	444
(Southwark)	3.43	...	...	529	161	46	57	37	2	21	1	—	175	26	3	368
(Islington)	60.04	...	...	198	90	31	7	39	9	4	1	—	15	—	2	108
(Camden)	51.51	...	...	182	97	26	19	18	3	3	1	1	6	7	1	85
(Greenwich)	60.62	...	...	319	99	15	56	30	8	2	4	—	96	9	—	220
(Hampstead)	82.65	...	...	366	90	82	39	17	1	6	1	3	92	29	6	276
(Hammersmith)	72.51	...	...	367	169	36	41	35	5	2	3	—	63	11	2	198
(Wandsworth)	65.21	...	...	333	184	40	44	32	—	1	1	12	5	12	2	149
(Clapham)	76.36	...	...	288	142	57	31	34	10	5	—	—	6	1	2	146
(Kilburn)	81.45	...	...	276	140	49	39	18	8	2	—	1	9	9	1	136
(Highgate)	44.76	...	...	493	203	98	73	32	24	1	1	—	50	9	2	290
TOTAL ...	699.42*	...	...	8,002	2,709	1,684	1,040	512	85	88	54	17	1,536	247	30	5,293

* Including 7.46 square miles, as area of the THAMES Division.

§ "Ambulance" means in practically every case the wheeled litter, but the figures may include a very few cases in which a vehicular ambulance was used.

(For cases of Illness, see opposite.)

TABLE (B).

RETURN of the Number of cases of SERIOUS ILLNESS in Streets within the Metropolitan Police District conveyed to Hospital or Infirmary, and the Means by which conveyed, during the 12 months ended December 31st, 1906 :—

Division.		Number of cases of Serious Illness occurring on Division.		Number of cases of Serious Illness in which Persons were conveyed by Ambulance§ to Hospital or Infirmary.		Mode of conveyance of Persons to Hospital or Infirmary other than by Ambulance.§						Total Number of Persons conveyed otherwise than by Ambulance.§ (13)
Name.	Area (Square Miles).	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	Children.	Adults.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
A (Whitehall)	1.88	94	31	29	9	—	10	1	6	3	5	63
B (Chelsea)	2.66	226	58	120	9	—	1	5	23	3	7	168
C (St. James's)	.76	94	56	37	1	—	—	—	—	—	—	38
D (Marylebone)	1.41	112	35	20	48	—	1	2	—	—	6	77
E (Holborn)	.99	308	207	48	9	—	1	1	42	—	—	101
F (Paddington)	2.89	81	68	13	—	—	—	—	8	—	—	13
G (Finsbury)	1.84	107	63	19	10	—	7	—	—	—	—	44
H (Whitechapel)	2.08	186	138	1	25	2	8	3	9	—	—	48
J (Hackney)	39.24	248	80	4	3	—	—	—	159	—	2	168
K (Bow)	37.28	137	120	10	4	—	—	1	1	—	1	17
L (Lambeth)	2.39	331	214	45	7	1	—	—	64	—	—	117
M (Southwark)	3.43	20	19	—	—	—	1	—	—	—	—	1
N (Islington)	60.04	98	65	15	6	2	2	—	8	—	—	33
P (Camberwell)	51.51	67	63	2	1	—	—	—	1	—	—	4
R (Greenwich)	60.62	74	46	3	1	1	—	—	23	—	—	28
S (Hampstead)	82.65	142	63	25	7	—	2	1	40	2	2	79
T (Hammer Smith)	72.51	134	100	12	9	3	2	2	5	1	—	34
V (Wandsworth)	65.21	86	66	5	1	—	1	—	8	5	1	20
W (Clapham)	76.36	56	41	5	2	1	1	—	6	—	—	15
X (Kilburn)	81.45	119	90	15	4	—	—	1	9	—	—	29
Y (Highgate)	44.76	133	93	16	8	6	2	4	2	2	—	40
TOTAL	699.42*	2,853	1,716	444	164	16	38	21	414	16	24	1,137

* Including 7.46 square miles, as area of the THAMES Division.

§ "Ambulance" means in practically every case the wheeled litter, but the figures may include a very few cases in which a vehicular ambulance was used.

APPENDIX II—continued.

TABLE (C).

RETURN of the Number of ACCIDENTS in Streets within the Metropolitan Police District to Individuals conveyed to Hospital or Infirmary, the Means by which they were conveyed, and whether Detained for Treatment or not; also the Number of Cases occurring within the 3-mile and 4-mile radius and the Number of Cases in which a Doctor was called to the case in the street, during the 12 months ended December 31st, 1906 :—

Division.		Number of accidents occurring on Division.	Number of cases in which persons were conveyed to Hospital or Infirmary.										Number of cases in which Doctor was called to case in street.					
			By Ambulance. §				By Cab.		Otherwise conveyed.									
			Cases occurred		Cases occurred.		Cases occurred		Cases occurred									
Name.	Area (Square Miles).	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
A (Whitehall) ...	1.88	209	46	19	27	46	—	101	74	27	101	—	62	53	9	62	—	4
B (Chelsea) ...	2.66	313	61	9	52	55	6	160	85	75	159	1	92	68	24	89	3	31
C (St. James's) ...	.76	332	71	27	44	71	—	198	153	45	198	—	63	54	9	63	—	5
D (Marylebone) ...	1.41	557	160	81	79	160	—	236	158	78	236	—	161	144	17	161	—	5
E (Holborn) ...	.99	631	118	65	53	118	—	131	101	30	131	—	382	360	22	382	13	27
F (Paddington) ...	2.89	229	54	28	26	27	27	138	100	38	81	57	37	26	11	24	—	10
G (Finsbury) ...	1.84	407	88	27	61	88	—	89	59	30	89	—	230	189	41	230	174	30
H (Whitechapel) ...	2.08	560	138	66	72	83	55	22	17	5	12	10	400	335	65	226	46	78
J (Hackney) ...	39.24	269	175	40	135	—	116	15	9	6	—	5	79	45	34	—	—	98
K (Bow) ...	37.28	520	243	65	178	—	—	15	5	10	—	—	262	194	68	—	—	59
L (Finsbury) ...	2.39	624	180	100	80	180	—	160	125	35	160	—	284	265	19	284	—	40
M (Southwark) ...	3.43	529	161	90	71	128	33	46	28	18	44	2	322	280	42	303	19	108
N (Islington) ...	60.04	198	90	31	59	22	2	31	11	20	16	1	77	41	36	8	2	96
P (Camberwell) ...	51.51	182	97	9	88	20	25	23	5	18	1	7	62	14	48	6	13	84
R (Greenwich) ...	60.62	319	99	18	81	—	—	15	1	14	—	—	205	145	60	—	2	95
S (Hampstead) ...	82.65	366	90	19	71	20	22	82	45	37	39	27	194	133	61	117	42	151
T (Hammersmith) ...	72.51	367	169	43	123	—	58	36	19	17	—	16	162	118	44	—	24	200
V (Wandsworth) ...	65.21	333	181	24	160	4	45	40	10	30	—	10	109	45	64	1	35	180
W (Clapham) ...	76.36	288	142	37	105	56	17	57	26	31	21	9	89	39	50	18	6	146
X (Kilburn) ...	81.45	276	140	37	103	—	71	49	20	29	—	35	87	38	49	—	33	104
Y (Highgate) ...	44.76	493	203	98	105	20	148	98	56	42	26	61	192	142	50	42	126	—
TOTAL ...	699.42*	8,002	2,709	933	1,776	1,098	625	1,742	1,107	635	1,314	241	3,551	2,728	823	2,016	538	1,551

* Including 7.46 square miles as area of the THAMES Division.
§ "Ambulance" means in practically every case the wheeled litter, but the figures may include a very few cases in which a vehicular ambulance was used.
(For cases of Illness see opposite.)

TABLE (D).

RETURN of the Number of Cases of SERIOUS ILLNESS in Streets within the Metropolitan Police District, conveyed to Hospital or Infirmary, showing the Means by which they were conveyed, and whether Detained for Treatment or not; also the Number of such Cases occurring within the 3-mile and 4-mile radius and the Number of Cases in which a Doctor was called to the case in the street, during the 12 months ended December 31st, 1906 :—

Division.		Number of cases in which persons were conveyed to Hospital or Infirmary.														Number of cases in which a Doctor was called to case in street.					
		By Ambulance, §				By Cab.				Otherwise conveyed.											
		Total.	Not detained at Hospital or Infirmary.	Detained at Hospital or Infirmary.	Cases occurred Within 3-mile Radius.	Cases occurred Between 3-mile and 4-mile Radius.	Total.	Not detained at Hospital or Infirmary.	Detained at Hospital or Infirmary.	Cases occurred Within 3-mile Radius.	Cases occurred Between 3-mile and 4-mile Radius.	Total.	Not detained at Hospital or Infirmary.	Detained at Hospital or Infirmary.	Cases occurred Within 3-mile Radius.		Cases occurred Between 3-mile and 4-mile Radius.				
(1)	(2)															(3)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Name.	Area (Square Miles).																				
A (Whitehall) ...	1.88	94	31	8	23	31	—	29	19	10	29	—	34	25	9	34	—	3			
B (Chelsea) ...	2.66	226	58	8	50	58	—	120	50	70	120	—	48	35	13	48	—	39			
C (St. James's) ...	.76	94	56	21	35	56	—	57	22	15	37	—	1	—	1	1	—	1		
D (Marylebone) ...	1.41	112	35	17	18	35	—	20	12	8	20	—	57	51	6	57	—	7			
E (Holborn) ...	.99	308	297	85	122	297	—	48	33	15	48	—	53	44	9	53	—	2		
F (Paddington) ...	2.89	81	68	7	61	25	43	13	8	5	3	10	—	—	—	—	—	38			
G (Finsbury) ...	1.84	107	63	23	37	63	23	19	14	5	19	—	25	15	10	25	—	8			
H (Whitechapel) ...	2.08	186	138	13	125	112	53	1	—	1	1	—	47	22	25	32	15	31			
J (Hackney) ...	39.24	248	80	21	59	—	—	4	—	4	—	—	164	147	17	—	147	19			
K (Bow) ...	37.28	137	120	7	113	—	—	10	—	10	—	—	7	3	4	—	—	69			
L (Lambeth) ...	2.39	331	214	95	119	214	—	45	22	23	45	—	72	56	16	72	—	35			
M (Southwark) ...	3.43	20	19	1	18	—	1	—	—	—	—	—	1	1	—	1	—	3			
N (Islington) ...	60.04	98	65	10	55	18	1	15	4	11	9	—	18	11	7	—	—	69			
P (Camberwell) ...	51.51	67	63	2	61	21	15	2	—	2	—	1	2	—	2	—	1	54			
R (Greenwich) ...	60.62	74	46	7	39	18	—	3	—	2	—	—	25	9	16	—	—	35			
S (Hampstead) ...	82.65	142	63	9	54	46	6	25	12	13	19	4	54	35	19	52	—	20			
T (Hammersmith) ...	72.51	134	100	35	65	—	27	12	3	9	—	6	22	7	15	—	7	63			
V (Wandsworth) ...	65.21	86	66	4	62	14	12	5	1	4	—	—	15	8	7	—	6	66			
W (Clapham) ...	76.36	56	41	2	39	7	4	5	—	5	—	—	10	—	10	—	—	46			
X (Kilburn) ...	81.45	119	90	5	85	—	57	15	—	15	—	4	14	4	10	—	8	105			
Y (Highgate) ...	44.76	133	93	19	74	25	50	16	2	14	5	8	24	10	14	2	9	51			
TOTAL ...	699.42*	2,853	1,716	402	1,314	936	295	444	203	241	355	33	693	483	210	377	193	764			

* Including 7.46 square miles as area of the THAMES Division.

§ "Ambulance" means in practically every case the wheeled litter, but the figures may include a very few cases in which a vehicular ambulance was used.

APPENDIX II.—*continued.*

TABLE (E).

RETURN showing the Approximate Distance of the nearest Hospital or Infirmary to which cases of ACCIDENTS in Streets (within the Metropolitan Police District) were conveyed, during the 12 months ended December 31st, 1906 :—

Division.		Total Number of Accidents occurring on Division.	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Name.	Area (Square Miles).													
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
A (Whitehall)	1.88	209	106	54	33	16	—	—	—	—	—	—	—	—
B (Chelsea)	2.66	313	48	53	80	31	81	17	3	—	—	—	—	—
C (St. James's)	.76	332	115	143	42	15	7	10	—	—	—	—	—	—
D (Marylebone)	1.41	557	65	181	97	171	39	1	—	—	—	—	—	—
E (Holborn)	.99	631	380	250	1	—	—	—	—	—	—	—	—	—
F (Paddington)	2.89	929	27	38	20	19	60	61	4	—	—	—	—	—
G (Finsbury)	1.84	407	64	181	79	34	47	2	—	—	—	—	—	—
H (Whitechapel)	2.08	560	72	116	150	153	69	—	—	—	—	—	—	—
J (Hackney)	39.24	269	100	47	39	30	18	20	12	2	—	—	—	—
K (Bow)	37.28	520	82	115	52	51	145	33	26	13	1	—	—	—
L (Lambeth)	2.39	624	149	36	118	103	107	90	21	—	—	—	—	—
M (Southwark)	3.43	529	60	87	134	62	146	12	23	5	—	—	—	—
N (Islington)	60.04	198	21	17	19	12	46	29	26	15	5	1	3	4
P (Camberwell)	51.51	182	17	13	21	11	33	20	36	22	5	1	—	—
R (Greenwich)	60.62	319	91	84	31	24	30	19	10	8	2	1	—	—
S (Hampstead)	82.65	366	110	102	14	28	43	21	28	11	4	4	1	—
T (Hammersmith)	72.51	367	114	35	25	36	54	38	50	10	1	1	2	1
V (Wandsworth)	65.21	333	35	64	50	37	82	17	34	8	6	—	—	—
W (Clapham)	76.36	288	11	17	27	13	32	61	73	43	7	3	—	—
X (Kilburn)	81.45	276	13	25	18	15	67	63	68	4	—	1	—	2
Y (Highgate)	44.76	493	79	97	71	48	158	20	14	6	—	—	—	—
TOTAL ...	699.42*	8,002	1,759	1,758	1,141	909	1,267	534	428	147	31	12	8	8

* Including 7.46 square miles, as area of the THAMES Division.

(For cases of Illness see opposite).

TABLE (F).

RETURN showing the Approximate Distance of the nearest Hospital or Infirmary to which cases of SERIOUS ILLNESS in Streets (within the Metropolitan Police District) were conveyed, during the 12 months ended December 31st, 1906 :—

Division.		Total Number of cases of Serious Illness occurring on Division. (3)	Under $\frac{1}{4}$ mile. (4)	Over $\frac{1}{4}$ mile and under $\frac{1}{2}$ mile. (5)	Over $\frac{1}{2}$ mile and under $\frac{3}{4}$ mile. (6)	Over $\frac{3}{4}$ mile and under 1 mile. (7)	Over 1 mile and under $1\frac{1}{2}$ miles. (8)	Over $1\frac{1}{2}$ miles and under 2 miles. (9)	Over 2 miles and under 3 miles. (10)	Over 3 miles and under 4 miles. (11)	Over 4 miles. (12)
Name. (1)	Area (Square Miles). (2)										
A (Whitehall	1.88	94	68	13	9	2	—	—	2	—	—
B (Chelsea)	2.66	226	42	38	58	42	42	—	3	1	—
C (St. James's)	.76	94	40	3	10	20	9	12	—	—	—
D (Marylebone)	1.41	112	33	34	22	20	3	—	—	—	—
E (Holborn)	.99	308	188	115	5	—	—	—	—	—	—
F (Paddington)	2.89	81	18	8	4	8	16	25	2	—	—
G (Finsbury)	1.84	107	23	37	39	8	—	—	—	—	—
H (Whitechapel)	2.08	186	33	42	60	41	10	—	—	—	—
J (Hackney)	39.24	248	113	21	21	59	12	1	—	—	—
K (Bow)	37.28	137	20	22	7	7	13	20	9	12	27
L (Lambeth)	2.39	331	190	64	35	26	14	2	—	—	—
M (Southwark)	3.43	20	2	6	5	3	4	—	—	—	—
N (Islington)	60.04	98	11	12	5	6	14	26	18	4	2
P (Camberwell)	51.51	67	30	6	3	2	7	4	7	7	1
R (Greenwich)	60.62	74	20	8	13	8	12	7	3	2	1
S (Hampstead)	82.65	142	73	39	3	5	8	3	3	6	2
T (Hammersmith)	72.51	134	52	19	9	7	19	12	13	2	1
V (Wandsworth)	65.21	86	9	11	18	6	18	4	18	2	—
W (Clapham)	76.36	56	8	5	1	1	7	4	13	12	5
X (Kilburn)	81.45	119	1	5	6	7	26	25	38	8	3
Y (Highgate)	44.76	133	54	26	18	7	12	2	11	3	—
TOTAL	699.42*	2,853	1,028	555	351	285	246	147	140	59	42

* Including 7.46 square miles as area of the THAMES Division.

APPENDIX II.—continued.

TABLE (G).

RETURN showing the Approximate Distance between the Nearest available Wheeled Litter and ACCIDENTS in Streets within the Metropolitan Police District, which occurred during the 12 months ended December 31st, 1906 :—

Division.		Number of Accidents occurring on Division.	Under $\frac{1}{4}$ mile. (4)	Over $\frac{1}{4}$ mile and under $\frac{1}{2}$ mile. (5)	Over $\frac{1}{2}$ mile and under $\frac{3}{4}$ mile. (6)	Over $\frac{3}{4}$ mile and under 1 mile. (7)	Over 1 mile and under $1\frac{1}{2}$ miles. (8)	Over $1\frac{1}{2}$ miles and under 2 miles. (9)	Over 2 miles and under 3 miles. (10)	Over 3 miles and under 4 miles. (11)	Over 4 miles and under 5 miles. (12)	Over 5 miles and under 6 miles. (13)	Over 6 miles and under 7 miles. (14)	Over 7 miles. (15)
Name.	Area (Square Miles).													
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
A (Whitehall)	1.88	209	166	37	6	—	—	—	—	—	—	—	—	—
B (Chelsea)	2.66	313	201	80	28	4	—	—	—	—	—	—	—	—
C (St. James's)	.76	332	286	39	3	4	—	—	—	—	—	—	—	—
D (Marylebone)	1.41	557	399	122	24	12	—	—	—	—	—	—	—	—
E (Holborn)	.99	631	599	32	—	—	—	—	—	—	—	—	—	—
F (Paddington)	2.89	229	146	41	25	13	—	—	—	—	—	—	—	—
G (Finsbury)	1.84	407	205	156	39	5	—	—	—	—	—	—	—	—
H (Whitechapel)	2.08	560	410	142	8	—	—	—	—	—	—	—	—	—
J (Hackney)	39.24	269	181	29	20	17	11	5	6	—	—	—	—	—
K (Bow)	37.28	520	232	187	64	25	11	—	—	1	—	—	—	—
L (Lambeth)	2.39	624	418	106	41	48	11	—	—	—	—	—	—	—
M (Southwark)	3.43	529	203	224	63	34	5	—	—	—	—	—	—	—
N (Islington)	60.04	198	64	30	34	28	31	7	—	—	—	—	—	—
P (Camberwell)	51.51	182	60	28	44	13	21	8	3	—	—	—	—	—
R (Greenwich)	60.62	319	138	86	31	24	36	2	2	—	—	—	—	—
S (Hampstead)	82.65	366	139	107	51	34	16	11	5	—	—	1	—	—
T (Hammersmith)	72.51	367	191	77	33	30	28	3	4	1	—	—	—	—
V (Wandsworth)	65.21	333	137	72	44	36	31	6	5	2	—	—	—	—
W (Clapham)	76.36	288	99	63	71	16	25	7	4	3	—	—	—	—
X (Kilburn)	81.45	276	109	52	32	52	22	5	3	—	—	—	—	1
Y (Highgate)	44.76	493	171	145	149	8	8	10	1	—	—	—	—	—
TOTAL ...	699.42*	8,002	4,554	1,855	810	403	262	64	35	17	—	1	—	1

* Including 7.46 square miles as area of the THAMES Division.

(For cases of Illness see opposite.)

TABLE (H).

RETURN showing the Approximate Distance between the nearest available Wheeled Litter and cases of SERIOUS ILLNESS in Streets, within the Metropolitan Police District, which occurred during the 12 months ended December 31st, 1906 :—

Division.		Number of cases of Serious Illness occurring on Division. (3)	Under $\frac{1}{4}$ mile. (4)	Over $\frac{1}{4}$ mile and under $\frac{1}{2}$ mile. (5)	Over $\frac{1}{2}$ mile and under $\frac{3}{4}$ mile. (6)	Over $\frac{3}{4}$ mile and under 1 mile. (7)	Over 1 mile and under $1\frac{1}{2}$ miles. (8)	Over $1\frac{1}{2}$ miles and under 2 miles. (9)	Over 2 miles and under 3 miles. (10)	Over 3 miles and under 4 miles. (11)	Over 4 miles and under 5 miles. (12)
Name. (1)	Area (Square Miles). (2)										
A (Whitehall) ...	1.88	94	85	7	2	—	—	—	—	—	—
B (Chelsea) ...	2.66	226	114	63	39	10	—	—	—	—	—
C (St. James's) ...	.76	94	78	11	5	—	—	—	—	—	—
D (Marylebone) ...	1.41	112	97	7	6	2	—	—	—	—	—
E (Holborn) ...	.99	308	291	17	—	—	—	—	—	—	—
F (Paddington) ...	2.89	81	63	12	1	3	2	—	—	—	—
G (Finsbury) ...	1.84	107	61	32	13	1	—	—	—	—	—
H (Whitechapel) ...	2.08	186	130	51	4	1	—	—	—	—	—
I (Hackney) ...	39.24	248	127	98	12	9	2	—	—	—	—
J (Bow) ...	37.28	137	60	44	22	9	2	—	—	—	—
K (Lambeth) ...	2.39	331	257	43	13	12	5	1	—	—	—
L (Southwark) ...	3.43	20	10	10	—	—	—	—	—	—	—
M (Islington) ...	60.04	98	38	27	14	5	9	4	1	—	—
N (Camberwell) ...	51.51	67	38	6	9	6	4	3	1	—	—
P (Greenwich) ...	60.62	74	31	20	10	9	3	1	—	—	—
R (Hampstead) ...	82.65	142	68	57	4	5	2	3	2	1	—
S (Hammersmith) ...	72.51	134	80	24	10	9	8	—	2	1	—
T (Wandsworth) ...	65.21	86	33	14	20	13	6	—	—	—	—
V (Clapham) ...	76.36	56	18	10	13	6	6	—	—	—	—
W (Kilburn) ...	81.45	119	51	26	15	14	10	—	2	1	—
X (Highgate) ...	44.76	133	81	30	14	8	—	—	—	—	—
Y (TOTAL ...	699.42*	2,853	1,811	609	226	122	59	12	8	4	2

* Including 7.46 square miles as area of the THAMES Division.

APPENDIX III.

METROPOLITAN POLICE ORDERS RELATING TO AMBULANCES AND ACCIDENTS, &c.
(SUPERSEDED BY REVISED ORDERS OF FEBRUARY 4TH, 1908, SET OUT IN APPENDIX IV.)*Handed in by Sir Edward Henry, Commissioner of Police of the Metropolis.**(See Questions 5-10.)*ORDER "A."—*Issued on August 13th, 1883.*

LONDON AMBULANCE SERVICE (HORSE AMBULANCES).

26. Horse ambulance wagons have been placed at Rochester Row Police Station (A), Carter Street Police Station (L), and Stoke Newington Police Station (N), and are to be sent out by police for the use of persons suffering from severe injury and illness, other than infectious diseases. (*Revised, 30-1-'97.**)

27. A small charge will be made (except in needy cases) for the horse and driver, according to the following scale :

For 2 miles and under	5s.	} inclusive.
" 3 "	"	"	6s.	
" 4 "	"	"	7s.	
" 5 "	"	"	8s.	
" 6 "	"	"	9s.	
" 6 "	"	10 miles	10s.	

2s. extra for any journey between 8 p.m. and 9 a.m. (*13-8-'83.**)

In addition to the above scale of charges for the horse ambulance, a further charge of 1s. is to be made in each case for cleaning it after use, and the work is to be done by the station cleaner, who is to be instructed to bring to notice immediately any damage that the vehicle may have sustained on a journey. When the ambulance is used for police purposes, the charge for cleaning will be paid from police funds. (*6-3-'94.**)

28. The ambulance when used by a private person, is not to be accompanied by police. (*6-3-'94.**)

29. Every facility is to be afforded by the police for the use of the horse ambulance wagons placed at the stations named, and with this view officers in charge of stations are, on the application of medical men, or other responsible persons, to use the telegraph for the purpose of directing the ambulances to be sent to any place where their services may be required. (*13-8-'83.**)

30. At the time of receiving the application, the conditions on which the ambulance wagons are available are to be made known to the applicant, and an entry of the particulars is to be made in the Occurrence Book. (*13-8-'83.**)

ORDER "B."—*Issued on June 12th, 1906.*HORSE AMBULANCES (METROPOLITAN ASYLUMS BOARD)
FOR THE CONVEYANCE OF PERSONS SUFFERING FROM
SEVERE INJURY OF ILLNESS.

26. The ambulance service of the Metropolitan Asylums Board is available within the County of London for the general convenience of the public requiring urgent treatment at hospitals and other places, in cases of serious injury or illness other than an infectious disease for which the Board have provided other ambulances.

27. Responsible persons making application to police are to be informed that the Board's charge is 7s. 6d. for each single journey, which includes the services of a male attendant (to assist in carrying the patient) as well as the driver, where the patient is over 12 years of age. One person may accompany the patient to the hospital or other destination, and such person may be conveyed back to the patient's residence without further charge.

28. Every facility is to be afforded by police to cause an ambulance to be sent with the least possible delay to any place where its services may be required, and this may be most expeditiously accomplished by making application as follows :—

In day time (9 a.m. to 11 p.m.), to the Chief Office (Ambulance Department), Victoria Embankment (corner of Carmelite Street), E.C., telegraphic address,

" Asylums Board, London," Tel. Nos. 2461 Holborn and 7181 Central (applications must be dispatched in time to reach the office before 11 p.m.).

At night time (11 p.m. to 9 a.m.), by telephone or by messenger to the nearest undermentioned ambulance station :—

Eastern.—Brooksby's Walk, Homerton, N.E. (Tel. No. 2461 Holborn.)

North Western.—Lawn Road, Fleet Road, Hampstead (near Hampstead Heath Railway Station), N.W. (Tel. No. 2462 Holborn.)

Western.—Seagrave Road, Fulham (near West Brompton Railway Station), S.W. (Tel. No. 2464 Holborn.)

South Western.—Landor Road, Stockwell (near Clapham Road Railway Station), S.W. (Tel. No. 2463 Holborn.)

South Eastern.—New Cross Road (near Old Kent Road Railway Station), S.E. (Tel. No. 7181 Central.)

Brook.—Shooter's Hill, Kent. (Tel. No. 2465 Holborn.)

29. Unless the ambulance is used for police purposes, expenses are not to be incurred, except in necessitous cases of urgent need, nor is it to be accompanied by police.

30. Particulars of any application are to be entered in the Occurrence Book.

ORDER "C."

METROPOLITAN POLICE ORDERS CONSOLIDATED IN 1899.

(*The dates given are those in which the orders came into force or were revised.*)

ACCIDENTS.

1. In all cases of accident, or illness in the streets, the police are to render all the assistance in their power by sending for medical aid (in the interval loosening the necktie and collar, raising the head, by which breathing is made easier), and, where necessary, to the police station for the wheeled ambulance or stretcher, to remove the sufferers to the nearest hospital, unless there be some special reason for taking them to another hospital. Where necessary, expenses for cab hire will be allowed. (*23-12-'47, Revised 26-6-'58*).

2. It is to be thoroughly understood that in all cases in which persons come into the hands of police, whether as prisoners or in any other manner, and there is any appearance of their being ill, or suffering from injury, or it is known or believed that they have hurt themselves by falling down, while drunk or otherwise, the Divisional or other surgeon is to be invariably sent for to see them, although they may make no complaint. The Commissioner trusts that there will be no neglect in carrying out this order. He desires that a liberal interpretation may be placed on all orders and regulations with respect to the attendance of divisional surgeons in cases of illness, accident, injury, or drunkenness, and even of suspected injury. (*12-5-'91*.)

3. When aid is offered by a certificated pupil of the ambulance classes of the Order of St. John of Jerusalem, it is to be accepted, unless the circumstances of the case render it unadvisable. A report is to be made of any such case in which aid is offered and declined. (*27-6-'79*.)

4. If sufferers cannot be removed to a hospital or to their homes, they are to be taken to the workhouse of the parish in which they are found. (*9-2-'31*.)

* The date given is that on which the Order came into force or was revised.

5. The number and division of a sergeant or constable who witnesses an accident are to be given at the time to the persons injured or aggrieved, or as soon afterwards as practicable. (25-7-'62.)

6. The full particulars are to be accurately reported by the police concerned, with a statement whether or not the accident was witnessed by police; but, if only known to them by the accounts of others, the names and addresses of informants are to be stated. The particulars are to be entered in the Occurrence Book, and in serious cases on the morning report. (20-5-'52.)

7. In all cases of accident, or illness in the streets, where the police are called on to act, and the sufferers are removed by them to a hospital, information, if their residences can be ascertained, is to be immediately given to the relatives or friends of the persons so removed. *This is to be done irrespective of any communication made by the hospital authorities, or other persons.* (28-11-'81.)

8. Returns are to be made weekly, in the authorised form, of the number of accidents which have occurred to persons during the previous week, ending Sunday midnight. Cases which occur beyond the "Metropolis," as defined by the Act 18 & 19 Vic. c. 120, but within the Metropolitan Police District, are to be noted, and short particulars of locality, &c., are to be given in the column of "Remarks." These returns are required for the Registrar General, and are to be sent to the Executive Branch by the second despatch every Monday. (9-2-'72.)

9. The instructions issued by the Royal Humane Society with respect to the treatment of persons apparently drowned, &c., are at once to be acted on so far as possible by the police, in cases of accident or emergency, but medical aid is to be obtained without delay. (15-10-'46.)

10. At the request of the Society drags are to be received, and safely kept at police stations ready for immediate use if required. Whenever it is known to police that the "drag," or other apparatus, supplied at any place by the Royal Humane Society, is missing, out of repair, or not in proper condition for use, a report, stating particulars, and the name of place where the drag, &c., is kept, is to be submitted to Commissioner in order that a communication may be made to the Society. (26-5-'35, 6-9-'66.)

11. When any officers of the Royal Humane Society have persons in their care who have met with accidents, &c., the police are to render them every possible assistance, but they are not to dictate to, or interfere with the treatment pursued by, the officers in question, who have directions from the Society as to the method of procedure in all cases. (1-11-'34.)

15. An ambulance is kept at every station where required and at certain fixed points, for conveying persons injured or incapable of walking. When not in use the hood is to be kept up where the shed will admit of it. (3-5-'97, Revised 14-8-'06 and 8-11-'06.)

15a. They are to be cleaned after use and are to be inspected daily to ascertain that they are clean and fit for use. Paint work is to be occasionally cleaned with sponge and water; oil is not to be used for this purpose. Straps are to be lightly oiled every two or three months to keep them pliable; excessive oiling causes stitches to become rotten and loose. Axles and wheel-boxes are to be cleaned and greased once a year by a local wheelwright selected by the Superintendent. The account is to be submitted with a requisition (Form 89). (14-8-'06, Revised 6-3-'07.)

15b. They are to be inspected from time to time in order to anticipate any repairs that may be needed, as it may not be possible to supply a spare ambulance immediately on application. When reporting defects in, or damage to, an ambulance, it is to be stated whether a spare one is required. (14-8-'06.)

15c. Each ambulance is to be kept fully equipped with the following articles:—

- | | |
|--|---------------------|
| (i.) A leg splint with foot piece. | } In a canvas case. |
| (ii.) A thigh splint, with hole and slots at one end. | |
| (iii.) Three pairs of flexible splints, varying in length, in a canvas case. | |
| (iv.) A tin box of stores. | |
| (v.) A canvas body cover. | |
| (vi.) A rug. | |

(i.) and (ii.) are to be carried strapped under the body of the ambulance, (iii.), (iv.) and (v.) in the locker.

The following stores are to be kept in each tin box:—

- (i.) Two Esmarch triangular bandages.
- (ii.) One 2½-in. roller bandage.
- (iii.) One 3-in. roller bandage.
- (iv.) One 6-in. roller bandage, open weave.
- (v.) One packet antiseptic (boric) lint.
- (vi.) One packet absorbent cotton wool.
- (vii.) One reel strapping plaster.
- (viii.) One tube carbolic acid soloids.

A list of the complete equipment is affixed to the door of each ambulance locker. (14-8-'06.)

15d. In the absence of the divisional surgeon any officer may use the soloids. An antiseptic solution can be made by adding one soloid to half a tumblerful of clean water, preferably boiled. A piece of the cotton wool supplied for this purpose and kept in the box should be employed as a swab and afterwards destroyed. (14-8-'06.)

15e. Except at small country stations a spare tin is to be kept, fully equipped with stores, at each station to which an ambulance is attached. For small country stations a few spare tins are to be kept at the sub-divisional or nearest large station. Tins are always to be kept sealed with strapping plaster round the join of the lid. When one has been opened it is to be exchanged for the spare tin and a requisition is to be made for the stores necessary to replenish it. When refilled it is to be re-sealed and kept at the station until again required for the ambulance. (14-8-'06.)

15f. Splints unfit for use and unserviceable tins will be exchanged in store. If the former have been used and are not available for exchange they will be replaced on requisition. (14-8-'06.)

16. Violent prisoners can be strapped down, and conveyed on the stretcher or litter safely to the station. (12-10-'87.)

17. A rug is supplied to be used in covering persons conveyed by the police on stretchers or litters, and when dead bodies are conveyed the faces are to be covered. (12-10-'87.)

18. When not in use, the rugs are to be neatly folded, and kept in the inspector's office, to prevent their being improperly used; when dirty they are to be washed, and cost is to be charged in the contingent account. (12-10-'87.)

19. The officer on duty at the station will be responsible for the proper cleansing of the stretcher or litter after use, and the sub-divisional inspector for its *general* condition as to cleanliness and fitness for use. (12-10-'87.)

20. Stretchers adapted from the side seats of police boats are supplied for the use of police of Thames Division. (14-7-'87.)

21. The following rules are to be observed in placing persons suffering from injuries, &c., on the police ambulance, and in wheeling the same:—

- (a) Place the foot of the ambulance at the head of the patient, in a line continuous with the body.
- (b) One constable to be at either side of the patient; they will lock their hands underneath the shoulders and hips, then gently raise the body, carry it forward over the ambulance, and lower the body on it.
- (c) Another constable (if there be one present) is to take charge of the injured limb or head, and steady it with the hand as may be necessary.
- (d) The ambulance is to be wheeled from the end nearest the head, with the feet in front, except when ascending a hill or steps, so that the patient's head is always higher than the feet. (22-12-'84.)

22. In order to provide for the time when the ambulance litters belonging to stations have been removed to the contractor for repairs, spare ambulance litters have been provided, and when not in use, are kept at certain stations selected by the surveyor. (25-3-'85.)

23. The spare ambulances are only to be sent for use to another station, on the authority of the surveyor, to replace an ambulance removed for repairs. (25-3-'85.)

24. Immediately the station ambulance is received back from the contractor, a telegram to that effect is to be

5. When a divisional or other surgeon is called by police to a station, or attends by their request elsewhere, to visit a person suffering from injuries or severe illness, he is to be asked by the officer on duty at the station or by the constable present, for directions as to the necessity for removing the individual to a hospital, infirmary, or other place. If the person concerned is in custody, the surgeon is to be requested to state whether the prisoner may be safely detained in a police cell or should be removed to an infirmary or hospital; the surgeon should also be asked for any directions he may deem to be necessary for the further guidance of police in dealing with the case. Whenever such instructions or directions are given to police at the police station, they are invariably to be entered in the Occurrence Book by the surgeon before he leaves, and, if the superintendent considers it necessary, are to be reported for the Commissioner's information. (*Revised 21-12-'94, 25-11-'95, 31-1-'02.*)

308. When a prisoner is taken to a hospital or workhouse by direction of the divisional surgeon, the police are to give notice that the person is a prisoner, and will be taken charge of by the police when in a fit condition to leave the hospital or workhouse; a request is to be made that due notice may be sent to the police prior to the discharge of the prisoner. (*25-11-'95, Revised 18-5-'06.*)

309. Whenever a person under the charge of the police is, on account of illness, directed by the divisional surgeon to be taken to a workhouse infirmary, the officer on duty

is to call the attention of the surgeon to the conditions under which persons are admitted to such infirmaries. (*25-11-'95, Revised 18-5-'06.*)

The conditions are as follows:—

- (1) Workhouse infirmaries are only intended for the treatment of persons who are destitute, and who have obtained a relieving officer's order for their admission.

In all cases, therefore, where the circumstances permit, such an order is to be obtained before a person is taken to the infirmary.

- (2) In cases of sudden or urgent necessity, the master of a workhouse is empowered to admit persons who have not procured the relieving officer's order; but it must be distinctly understood that such admission is not to be sought for any person in charge of the police, except when danger would accrue, either to the person himself, or to the public service, from his being detained at a police station until he can be sent to his own house or to a hospital or other place of safety.

- (3) The surgeon who recommends the removal is to specify on Form 17 the reasons for which he considers it necessary, and he is solely responsible for such advice.

APPENDIX IV.

REVISED METROPOLITAN POLICE ORDERS RELATING TO ACCIDENTS, AMBULANCES &c., WHICH CAME INTO FORCE ON FEBRUARY 4TH, 1908.

Handed in by Mr. Clinton Dent, Chief Surgeon to the Metropolitan Police. (See Question 3542).

ACCIDENTS.

1. *Divisional Surgeon or nearest doctor to be called.*

When persons come into the hands of police, whether as prisoners or otherwise, and there is any indication or reason to suspect that they may be ill or suffering from injury, the divisional surgeon, or in urgent cases the nearest doctor, is invariably to be called to examine them, although the persons themselves may make no request for medical attendance.

2. *Promptitude and energy in dealing with persons ill or injured.*

In dealing with persons found ill or injured in the streets, the action of police must be guided to some extent by circumstances.

Obviously in serious cases the first consideration is to obtain medical aid for the sufferer; in inner London, therefore, where an ambulance is close at hand and hospitals accessible, prompt removal to the latter by ambulance is the safest course. The pocket directory contains a list of ambulance litters (including those belonging to private persons, local authorities and others) which are available to police in cases of accidents, &c.

In the outer districts conditions are different, and it may very well be desirable to summon the nearest medical man and to await his arrival before removing the patient.

In either case, after taking prompt measures to get an ambulance and when necessary a doctor, police should do all that lies in their power to afford relief and assistance in accordance with the principles of First Aid instruction, and to prevent a crowd gathering round the injured person. Although it is generally desirable that an ambulance should be used for the removal of a sick or injured person, it may on occasions be expedient to make use of a cab or other vehicle if the patient's condition appears to justify such a course. In cases of insensibility, or of any injury to the head, or internal injury, or of fracture of lower limbs, or where any such injury is suspected, a cab is a very unsuitable means of transport.

3. *Expenses.*

Expenses for cab or carriage hire will be allowed when necessarily incurred, but the reasons for employing such means of removal must be fully stated in reporting the incident.

If persons wish to be removed to their own homes, or to some destination other than a hospital, police are to comply with the request if practicable.

4. *Admission to hospital refused.*

In the event of the hospital authorities refusing admission, a patient must be removed to the infirmary of the parish in which found.

5. *Relatives to be acquainted.*

Relatives and friends of persons removed to hospitals or infirmaries are to be informed by police as soon as possible, irrespective of any communication from other source.

6. *Entry in Occurrence Book.*

Full particulars of each case, including the names and addresses of witnesses and informants are to be accurately reported by police concerned, and entered in Occurrence Book.

7. *Number, &c., of officer to be supplied.*

The number and division of a sergeant or constable who witnesses an accident are to be given at the time to the persons injured or aggrieved, or as soon afterwards as practicable.

8. When a police officer conveys any person to a hospital, infirmary, workhouse, or similar institution he is to leave with some responsible official attached thereto, his rank, number, name, division and station to which attached.

9. *Certificated aid.*

When aid is offered by a certificated pupil of an ambulance class, it is to be accepted, unless the circumstances of the case render it inadvisable. A report is to be made of any such case in which aid is offered and declined.

10. *Returns.*

Returns are to be made weekly on Form 146A of the number of accidents which have occurred to persons during the previous week, ending Sunday midnight. Cases which occur beyond the "Metropolis," as defined by the Metropolis Management Act, 1855 (18 & 19 Vict. c. 120), but within the Metropolitan Police District, are to be noted, and short particulars of locality, &c., are to be given in the column of "Remarks." These returns

are required for the Registrar-General, and are to be sent to the Executive Branch by the second despatch each Monday.

11. *Royal Humane Society's instructions.*

The instructions issued by the Royal Humane Society with respect to the treatment of persons apparently drowned, &c., are at once to be acted on so far as possible by police, in cases of accident or emergency, but medical aid is to be obtained without delay.

12. *Drags.*

At the request of the Royal Humane Society drags are to be received, and kept at police stations ready for immediate use. Whenever it is known that the "drag" or other apparatus, supplied by the Society, is missing or not in proper condition for use, a report of the particulars is to be submitted to Commissioner in order that the Society may be acquainted.

13. *Assistance to officers of Royal Humane Society.*

When officers of the Royal Humane Society have persons in their care who have met with accidents, &c., the police are to render them every assistance, but are not to dictate to, or interfere with the treatment pursued by the officers in question.

14. *Chaff-cutting machines.*

The feeding mouth or box of every chaff-cutting machine which is worked by any motive power, other than manual labour, is required by the Chaff-cutting Machines (Accidents) Act, 1897 (60 & 61 Vict. c. 60), to be of such construction or fitted with such apparatus as to prevent the hand or arm of the person feeding the machine from being drawn between the rollers to the knives; and the fly-wheel and knives of such machines are required to be kept sufficiently and securely fenced at all times during the working thereof.

15. If any person permits to be worked any chaff-cutting machine belonging to him or used for his service or benefit which does not comply with the requirements of this Act or if any foreman or other person in charge of any chaff-cutting machine which does not comply with the requirements of this Act, works it or permits it to be worked; or if any person, during the working of any chaff-cutting machine, unnecessarily and without due cause removes any guard or thing provided in compliance with the requirements of this Act; he is liable to a penalty not exceeding five pounds.

16. Any constable acting upon the instruction of an officer of police, not below the grade of inspector, may at any time enter any premises on which he has reasonable cause to believe that a chaff-cutting machine which does not comply with the requirements of this Act is being worked, for the purpose of inspecting such machine.

17. When police have reason to believe that the provisions of this Act are being contravened, the premises concerned are to be visited, if possible while the machine is being worked, by an inspector or a sergeant acting under his instructions, and the result reported to Commissioner.

AMBULANCE LITTERS AND STRETCHERS.

18. *Ambulances kept at stations, &c.*

An ambulance is kept at every station where required and at certain other points, for conveying persons injured or otherwise incapable of walking. When not in use the hood is to be kept up when practicable.

19. *Cleansing, inspection, &c.*

Ambulances are to be cleaned after use and are to be inspected daily. Paint work is to be occasionally cleaned with sponge and water; oil is not to be used for this purpose. Straps are to be lightly oiled every two or three months to keep them pliable; excessive oiling causes stitches to become rotten and loose. Axles and wheel-boxes are to be cleaned and greased once a year by a local wheelwright selected by the Superintendent. The account is to be submitted with a requisition (Form 89).

20. The scale of remuneration for cleaning the police ambulances and shelters will be 9d. for cleaning and 2d. per mile travelling (one way) where an ambulance is only cleaned once a week; and 6d. (inclusive) for each extra time, after the first, that the ambulance is used and cleaned; expenses to be charged monthly on Form 54.

21. The station officer on duty will be responsible for seeing to the proper cleansing of the stretcher or litter after use.

22. They are also to be inspected from time to time in order to anticipate any repairs that may be needed, as it may not be possible to supply a spare ambulance immediately on application. When reporting defects in, or damage to, an ambulance, it is to be stated whether a spare one is required. Care is to be taken that the nuts and similar parts of the ambulances are properly attached at all times.

23. To provide for the time when the ambulance litters belonging to stations have been removed to the contractor for repairs, spare litters have been provided, and when not in use, are kept at certain stations selected by the surveyor.

24. Spare ambulances are only to be sent for use to another station, on the authority of the surveyor, to replace an ambulance removed for repairs.

25. A telegram is to be forwarded to the surveyor immediately the station ambulance is received back from the contractor, the spare ambulance being retained until instructions as to its disposal are received from the surveyor.

26. *Equipage and stores.*

Each ambulance is to be kept fully equipped with the following articles:—

- (i.) A leg splint with foot piece (in a canvas case.)
- (ii.) A thigh splint, with hole and slots at one end (in a canvas case.)
- (iii.) Three pairs of flexible splints, varying in length, (in a canvas case.)
- (iv.) A tin box of stores.
- (v.) A canvas body cover.
- (vi.) A rug.

(i.) and (ii.) are to be carried strapped under the body of the ambulance, (iii.), (iv.) and (v.) in the locker.

The following stores are to be kept in each tin box:—

- (i.) Two Esmarch triangular bandages.
- (ii.) One 2½ in. roller bandage.
- (iii.) One 3 in. roller bandage.
- (iv.) One 6 in. roller bandage, open wove.
- (v.) One packet antiseptic (boric) lint.
- (vi.) One packet absorbent cotton wool.
- (vii.) One reel strapping plaster.
- (viii.) One tube carbolic acid solids.

A list of the complete equipment is affixed to the door of each ambulance locker.

27. The triangular bandages should not be used a second time until washed. When a bandage has been applied over a wound, it should never be used again.

28. In the absence of the divisional surgeon any officer may use the solids. An antiseptic solution can be made by adding one solid to half a tumblerful of clean water, preferably boiled. A piece of the cotton wool supplied for this purpose and kept in the box should be employed as a swab and afterwards destroyed.

29. Except at small country stations a spare tin is to be kept, fully equipped with stores, at each station to which an ambulance is attached. For small country stations a few spare tins are to be kept at the sub-divisional or nearest large station. Tins are always to be kept sealed with strapping plaster round the join of the lid. The strapping plaster should not be cut in any way; but simply peeled off and re-used when the box is to be re-sealed. When one has been opened it is to be exchanged for the spare tin and a requisition is to be made for the stores necessary to replenish it. When refilled it is to be re-sealed and kept at the station until again required for the ambulance.

30. Splints unfit for use and unserviceable tins will be exchanged in store. If the former have been used and are not available for exchange they will be replaced on requisition.

31. *Violent prisoners.*

Violent prisoners can be strapped down on the ambulance and conveyed safely to the station.

32. *Rugs for covering injured persons, &c.*

A rug is supplied to be used in covering persons conveyed on stretchers or litters, and when dead bodies are conveyed the faces are to be covered. The rugs are to be neatly

folded when not in use, and kept in the inspector's office; they are to be kept thoroughly clean, the cost of washing being charged in the contingent account.

33. Police boats (stretchers).

Stretchers adapted from the side seats of police boats (except motor boats) are supplied for the use of police of Thames Division.

34. Rules for using ambulance.

The following rules are to be observed in placing persons suffering from injuries, &c., on the ambulance, and in wheeling the same :—

- (a) Place the foot of the ambulance at the head of the patient, in a line continuous with the body.
- (b) One constable to be at either side of the patient; they will lock their hands underneath the shoulders and hips, then gently raise the body, carry it forward over the ambulance, and lower the body on it.
- (c) Another constable (if there be one present) is to take charge of the injured limb or head, and steady it with the hand as may be necessary.
- (d) The ambulance is to be wheeled from the end nearest the head, with the feet in front, except when ascending a hill or steps, so that the patient's head is always higher than the feet.

35. Ambulance Number to be quoted.

Each ambulance litter bears a distinctive number, which is to be quoted in all documents regarding the same.

HORSE AMBULANCES FOR CONVEYANCE OF PERSONS SUFFERING FROM SEVERE INJURY OR ILLNESS.

36. Available within County of London.

The ambulance service of the Metropolitan Asylums Board is available within the County of London for the general convenience of the public. The Board have provided a distinct ambulance service for cases of infectious diseases.

37. Fee.

Responsible persons making application to police are to be informed that the Board's charge is 7s. 6d. for each single journey, which includes the services of a male attendant (to assist in carrying the patient) as well as the driver, where the patient is over 12 years of age. One person may accompany the patient to the hospital or other destination, and such person may be conveyed back to the patient's residence without further charge.

38. Unless the ambulance is used for police purposes, expenses are not to be incurred, except in necessitous cases of urgent need, nor is it to be accompanied by police.

39. Situation and times available.

Every facility is to be afforded by police to persons desiring to avail themselves of this ambulance service. Application should be made as follows :—

In day time (9 a.m. to 11 p.m.), to the Chief Office (Ambulance Department), Victoria Embankment (corner of Carmelite Street). Telegraphic address, "Asylums Board, London." Telephone Nos. 2461 Holborn and 7181. Central. (Applications must reach the office before 11 p.m.).

At night time (11 p.m. to 9 a.m.), to the nearest undermentioned ambulance station :—

Eastern.—The Grove, Brooksby's Walk, Homerton, N.E. (Tel. No. 2461 Holborn.)

North Western.—Lawn Road, Fleet Road, Hampstead (near Hampstead Heath Railway Station). (Tel. No. 2462 Holborn.)

Western.—Seagrave Road, Fulham (near West Brompton Railway Station). (Tel. No. 2464 Holborn.)

South Western.—Landon Road, Clapham Road, Stockwell, S.W. (Tel. No. 2463 Holborn.)

South Eastern.—Avonley Road, New Cross Road (near Old Kent Road Railway Station). (Tel. No. 7181 Central.)

Brook.—Shooter's Hill Road, Blackheath, S.E. (Tel. No. 2465 Holborn.)

Police telegraph and telephone may be used as means of communication.

40. Street accidents or serious illness.

The Board's ambulances reserved for non-infectious cases may be employed by police to convey to hospital any person *seriously* ill or injured in a street accident, when circumstances are such as to render such a course desirable; for instance, when the horse ambulance is more easily obtainable than a police (or other) litter, or the distance from the place of accident to the nearest hospital is considerable. Superintendents will charge the expense in the divisional monthly account in the ordinary way. The police or public telephones may be used to call up the ambulance.

41. Entry in Occurrence Book.

Particulars of any application are to be entered in the Occurrence Book.

THE "BISCHOFFSHEIM" AMBULANCE SERVICE OF LONDON.

42. Situation of ambulances.

Ambulance litters, furnished by the "Bischoffsheim" Ambulance Service of London, have been placed at the undermentioned places, to be used in removing to hospital persons suffering from injury or illness, *other than an infectious disease or cases in which persons are drunken or violent* :—

Div. Situation.

B. Near the Cabmen's Shelter, Eccleston Bridge, Buckingham Palace Road.

B. Sloane Square.

B. Queen's Gate by grounds of Natural History Museum.

B. Chelsea Town Hall.

C. St. James's Square (south side of), west of the Cabmen's Shelter.

D. Cab Stand, Maida Vale.

D. Langham Place, near the Cabmen's Shelter.

D. Orchard Street and Portman Square corners.

E. Cab Rank, near St. Clement Dane's Church, Strand.

E. King's College Hospital.

E. Fire Station, Theobald's Road.

E. 54, Gray's Inn Road (during day).

F. Pickering Place, Bayswater.

F. Cab Rank, Bayswater Road, Edgware Road standing.

F. St. Mary's Hospital, Cambridge Place, Paddington.

F. Cab Rank, Archer Street, Notting Hill.

G. Tabernacle Square, Old Street.

G. Royal Free Hospital, Gray's Inn Road.

H. Slanborough Street (south end of), near Stepney Railway Station.

J. North-east corner of Cambridge Road and Mile End Road.

J. North Eastern Hospital for Children, Hackney Road.

J. Metropolitan Hospital, Kingsland Road.

K. East and West India Dock Roads.

K. Public Hall, Barking Road, Canning Town.

L. St. George's Road, Southwark.

L. Fire Station, Waterloo Road.

M. South-east corner of Blackfriars Road and Southwark Street.

M. Marshalsea Road, Borough.

N. Tottenham Hospital, The Green, Tottenham.

N. The Hale Fire Station, Tottenham.

N. Fire Station, High Cross, Tottenham.

P. Triangle, Rye Lane, Peckham.

R. Miller Hospital, Greenwich Road.

S. Cab Rank in Albert Road (York and Albany), Regent's Park.

S. London Temperance Hospital, Hampstead Road.

S. Memorial Institute, Stanmore Hill (bottom of).

T. Shepherd's Bush Green (near the Tube Station).

W. Vauxhall Cross.

X. Cab Rank, Royal Crescent, Notting Hill.

Y. Cab Rank in Midland Road, by Midland Hotel, St Pancras.

Y. Fire Station, Pratt Street, Camden Town.

Y. Copenhagen Street, N. (near the Fire Box).

Y. Great Northern Central Hospital, Holloway Road, N.

Y. Umfreville Road (adjoining Fire Station), Harringay.

43. *Equipage.*

Each ambulance litter consists of a stretcher with a canopy, carried on a wheeled frame, and is furnished with splints and other appliances for rendering First Aid when necessary. The litter is placed in a covered shelter, to which access is gained by means of a sliding panel arranged to admit of the door being opened whenever the litter is required.

44. *Aims of the "Bischoffsheim" Ambulance Service.*

It is not intended that police should incur any additional responsibility in assisting to carry out the aims of the "Bischoffsheim" Ambulance Service, which are to promote the use of ambulances in lieu of cabs, for the conveyance of injured persons to hospital; but the ambulances being placed at busy points will often be much nearer to police on duty than the station ambulance, and may be used whenever required in cases of illness or injury, care being taken that the ambulance is returned to the shelter as soon as possible.

45. Ambulances have been placed by the "Bischoffsheim" Ambulance Service at some of the fire brigade stations, hospitals, &c., and may be used by police when required under the foregoing regulations.

46. *Repairs.*

The safe keeping and maintenance of the ambulances are undertaken by the "Bischoffsheim" Ambulance Service whose officers will keep them in repair.

47. Should any of the ambulances or shelters become in any way damaged, a telegram giving particulars is to be sent to the Honorary Secretary, The "Bischoffsheim" Ambulance Service of London, St. Mary's Hospital, Paddington.

AMBULANCES FOR THE CONVEYANCE OF PERSONS
SUFFERING FROM INFECTIOUS DISEASES.

48. *Drivers delaying on journey.*

When drivers of ambulance conveyances are seen by police stopping at public-houses, coffee-houses, or elsewhere on their journeys to and from fever or small-pox hospitals, the names and addresses of such drivers, or persons in

charge, with particulars of destination, and name of authority to whom the ambulance belongs, are to be obtained, and a report made to the Commissioner, with a view to a communication being made to the Local Government Board or Metropolitan Asylums Board.

49. *Passage of ambulances to be facilitated.*

Every facility is to be afforded for the passage of ambulances through the streets, and police are to assist the drivers and attendants in preventing the dangerous practice of persons climbing upon and looking into the ambulances while waiting outside houses.

50. *Situation of infectious hospitals.*

The several infectious hospitals are designated as follows:—

SITUATION OF HOSPITAL.	DESIGNATION.
Haverstock Hill	North Western Hospital.
Fulham	Western Hospital.
Stockwell	South Western Hospital.
New Cross	South Eastern Hospital.
Homerton	Eastern Hospital.
Winchmore Hill	Northern Hospital.
St. Ann's Road, Tottenham	North Eastern Hospital.
Lower Tooting	Fountain Hospital.
Lewisham	Park Hospital.
Shooter's Hill	Brook Hospital.

AMBULANCE CLASSES.

51. *Formation of classes.*

Ambulance classes for the instruction of police in the method of rendering First Aid to injured persons are formed from time to time under the auspices of the Society of St. John of Jerusalem, the London County Council (Education Department), &c.

52. *Fees. Time off.*

Notice of the formation of the classes, for instruction, will be published in Police Orders. The fees (if any) are to be paid by superintendents and charged on Form 54, to which the receipts must be attached. "Time off" will be granted to police attending, and travelling expenses allowed where necessary.

APPENDIX V.

RETURN OF HOSPITALS AND INFIRMARIES SITUATE WITHIN THE METROPOLITAN POLICE DISTRICT, TO WHICH CASES OF INJURY OR SERIOUS ILLNESS IN THE STREETS MAY BE TAKEN BY THE POLICE, (MAY, 1907).

Handed in by Sir Edward Henry, Commissioner of Police of the Metropolis. (See Question 93).

TABLE A.—HOSPITALS SITUATED WITHIN THE ADMINISTRATIVE COUNTY OF LONDON (EXCLUDING INFIRMARIES—for which see TABLE C).

Police Division.	Name of Hospital.	Situation of Hospital.
A. (Whitehall)	Westminster	Broad Sanctuary, S.W.
B. (Chelsea)	St. George's	Hyde Park Corner, S.W.
B. "	Kensington General	Church Street, Kensington, W.
B. "	Victoria (for children under 14)	Tite Street, Chelsea, S.W.
C. (St. James's)	French (for French subjects)	Shaftesbury Avenue, W.
D. (Marylebone)	Middlesex	Mortimer Street, W.
D. "	University College	Gower Street, W.C.
E. (Holborn)	King's College	Strand, W.C.
E. "	Charing Cross	Agar Street, Strand, W.C.
E. "	Homœopathic	Great Ormond Street, W.C.
F. (Paddington)	St. Mary's	Cambridge Place, W.
F. "	Children's	Paddington Green, W.
G. (Finsbury)	Royal Free	Gray's Inn Road, W.C.
H. (Whitechapel)	London	Whitechapel Road, E.
H. "	East London (for children)	Glamis Road, E.
H. "	Mildmay Mission	Austin Street, E.
J. (Hackney)	German	Dalston Lane, N.E.
J. "	Metropolitan	Kingsland Road, N.

TABLE (A)—HOSPITALS SITUATED WITHIN THE ADMINISTRATIVE COUNTY OF LONDON (EXCLUDING INFIRMARIES)—*continued*.

Police Division.	Name of Hospital.	Situation of Hospital.
K. (Bow)	Poplar	East India Dock Road, E.
K. "	Poplar and Stepney Sick Asylum ...	Devons Road, E.
L. (Lambeth)	St. Thomas's	Albert Embankment, S.E.
M. (Southwark)	Guy's	London Bridge, S.E.
M. "	Evelina (for children)	Southwark Bridge Road, S.E.
P. (Camberwell)	*Lewisham Infirmary	Lewisham, S.E.
P. "	*Havil Street Infirmary	Camberwell, S.E.
R. (Greenwich)	Miller	Greenwich Road, S.E.
R. "	St. John's	Morden Hill, Lewisham, S.E.
R. "	Seamen's	Greenwich, S.E.
R. "	Blackheath Cottage Hospital	Shooter's Hill Road, S.E.
R. "	Shooter's Hill Cottage Hospital ...	Shooter's Hill Road, S.E.
R. "	Eltham Cottage Hospital	Park Place, Eltham, Kent.
S. (Hampstead)	Temperance	Hampstead Road, N.W.
S. "	General	Haverstock Hill, N.W.
S. "	St. John and St. Elizabeth	Grove End Road, N.W.
S. "	Hospital for Epileptic and other Fits ...	Maida Vale, N.W.
T. (Hammersmith)	West London	Hammersmith Road, W.
V. (Wandsworth)	Bolingbroke	Bolingbroke Grove, Wandsworth Common, S.W.
V. "	Anti-Vivisection	Albert Bridge Road, S.W.
Y. (Highgate)	Great Northern	Holloway Road, N.
Y. "	North-West London	Kentish Town Road, N.W.

* These Institutions partake of the nature of Hospitals and receive cases whether urgent or otherwise.

TABLE (B).

HOSPITALS SITUATED BEYOND THE ADMINISTRATIVE COUNTY OF LONDON (EXCLUDING INFIRMARIES,—
for which see TABLE C).

Police Division.	Name of Hospital.	Situation of Hospital.
J. (Hackney)	Jubilee	Broomhill Road, Woodford Green, Essex.
J. "	The Village Hospital	Hospital Lane, Buckhurst Hill, Essex.
J. "	The Medical Home	Queen's Road, Buckhurst Hill, Essex.
K. (Bow)	West Ham and East London	Bryant Street, West Ham Lanc, Stratford.
K. "	East Ham Cottage Hospital	Shrewsbury Road, East Ham, Essex.
K. "	Seamen's	Connaught Road, Custom House, E.
K. "	St. Mary's (for women and children) ...	London Road, Plaistow, E.
N. (Islington)	Tottenham	The Green, High Road, Tottenham.
N. "	Walthamstow, Leyton and Wanstead ...	14, Orford Road, Walthamstow, Essex.
N. "	Cheshunt Cottage Hospital	Church Lane, High Street, Cheshunt.
P. (Camberwell)	Norwood Cottage Hospital	Hermitage Road, Upper Norwood, S.E.
P. "	Bromley Cottage Hospital	Bannister's Lane, Bromley, Kent.
P. "	Phillips' Memorial Homœopathic	Lownds Avenue, Bromley, Kent.
P. "	Beckenham Cottage Hospital	Croydon Road, Beckenham, Kent.
R. (Greenwich)	Bexley Heath Cottage Hospital	Upton Road, Bexley Heath, Kent.
R. "	Erith Cottage Hospital	High Street, Erith, Kent.
R. "	Sidcup Cottage Hospital	Birkbeck Road, Sidcup, Kent.
R. "	Cray Valley Cottage Hospital	Sandy Lane, St. Paul's Cray, Kent.
S. (Hampstead)	The Cottage Hospital	Barnet Hill, High Barnet, Herts.
S. "	Stanmore Cottage Hospital	Old Church Lane, Stanmore, Herts.
S. "	Bushey Cottage Hospital	Windmill Lane, Bushey Heath, Herts.
T. (Hammersmith)	Hounslow Cottage Hospital	Bell Road, Hounslow, Middlesex.
T. "	Teddington Cottage Hospital	Elfin Grove, Teddington, Middlesex.
T. "	St. John's	Amyond Park Road, Twickenham, Middlesex.
T. "	Harlington, Cranford and Harmonds- worth Cottage Hospital	Hospital Lane, Cranford, Middlesex.
V. (Wandsworth)	South Wimbledon, Merton and District Cottage Hospital	173, Merton Road, Wimbledon, S.W.
V. "	North Wimbledon Cottage Hospital ...	Thurston Road, Copse Hill, Wimbledon, S.W.
V. "	Royal	Kew Road, Richmond, Surrey.
V. "	Thames Ditton Cottage Hospital	Weston Green Road, Thames Ditton, Surrey.
V. "	The Cottage Hospital	Alexander Road, Epsom, Surrey.
V. "	St. Anthony's	London Road, North Cheam, Surrey.

APPENDIX V.—TABLE (B).—HOSPITALS SITUATED BEYOND THE ADMINISTRATIVE COUNTY OF LONDON
(EXCLUDING INFIRMARIES, *see* TABLE C)—*continued.*

Police Division.	Name of Hospital.	Situation of Hospital.
V. (Wandsworth)	Victoria Cottage Hospital	Coombe Lane, Kingston Hill, Surrey.
V. "	Surbiton Cottage Hospital	St. James's Road, Surbiton, Surrey.
W. (Clapham)	Croydon General	London Road, West Croydon, Surrey.
W. "	Sutton	Hill Road, Sutton, Surrey.
W. "	Carshalton Cottage Hospital	Rochester Road, Carshalton, Surrey.
X. (Kilburn)	Willesden Cottage Hospital	Harlesden Road, Willesden, Middlesex.
X. "	Harrow Cottage Hospital	Lower Road, Harrow, Middlesex.
X. "	Ealing Cottage Hospital	Northfield Lane, Ealing, Middlesex.
X. "	Acton Cottage Hospital	44, Gunnersbury Lane, Acton, Middlesex.
X. "	Hanwell Cottage Hospital	Green Lane, Hanwell, Middlesex.
Y. (Highgate)	The Cottage Hospital	Bounds Green Road, Wood Green, Middlesex.

TABLE (C).

INFIRMARIES AND OTHER PUBLIC INSTITUTIONS (OTHER THAN HOSPITALS) SITUATE WITHIN THE METROPOLITAN POLICE DISTRICT, TO WHICH URGENT CASES OF INJURY OR SERIOUS ILLNESS IN THE STREETS MAY BE TAKEN DIRECT WHEN THE CIRCUMSTANCES WARRANT.

Police Division.	Name of Infirmary, &c.	Situation of Infirmary, &c.
B. (Chelsea)	St. George's	Fulham Road, S.W.
B. "	Chelsea	Cale Street, Chelsea, S.W.
C. (St. James's)	§*St. James's	49 to 53, Poland Street, W.
D. (Marylebone)	Western General Dispensary	Marylebone Road, W.
E. (Holborn)	§Bear Yard	Sheffield Street, Kingsway, W.C.
E. "	§St. Giles	Endell Street, Broad Street, Bloomsbury, W.C.
F. (Paddington)	Kensington... ..	Marloes Road, Kensington, W.
F. "	Kensington Dispensary	49, Church Street, Kensington, W.
G. (Finsbury)	§Holborn	Shepherdess Walk, City Road, N.
G. "	Shoreditch	Hoxton Street, Shoreditch, N.
H. (Whitechapel)	St. George's-in-the-East	Raines Street, Old Gravel Lane, E.
J. (Hackney)	Bethnal Green	Cambridge Road, Bethnal Green, E.
J. "	Mile End	Bancroft Road, Mile End, E.
J. "	Whitechapel	Vallance Road, Whitechapel, E.
J. "	Hackney	High Street, Homerton, N.E.
L. (Lambeth)	Lambeth	Brook Street, Lambeth, S.E.
L. "	§Newington... ..	Westmoreland Road, Walworth, S.E.
M. (Southwark)	§*St. Olave's	Parish Street, Bermondsey, S.E.
M. "	*St. Olave's	Lower Road, Rotherhithe, S.E.
M. "	§*St. George's	Mint Street, Southwark, S.E.
N. (Islington)	Edmonton	Bridport Road, Edmonton, Middlesex.
P. (Camberwell)	+Camberwell	Havil Street, Camberwell, S.E.
P. "	§Camberwell	Constance Road, East Dulwich, S.E.
P. "	Southwark	East Dulwich Grove, East Dulwich, S.E.
P. "	+Lewisham	High Street, Lewisham, S.E.
P. "	The Children's Sick Home	Sydenham Road, Lower Sydenham, S.E.
P. "	Bromley	Locks Bottom, Farnborough, Kent.
R. (Greenwich)	Greenwich	48, Vanburgh Hill, East Greenwich, S.E.
R. "	Woolwich	High Street, Plumstead, S.E.
S. (Hampstead)	Hampstead... ..	New End, Hampstead, N.W.
S. "	Hendon	Edgware Road, Hendon, Middlesex.
T. (Hammersmith)... ..	Isleworth	Twickenham Road, Isleworth, Middlesex.
T. "	Staines	London Road, Stanwell, Middlesex.
V. (Wandsworth)	Richmond	Grove Road, Richmond, Surrey.
V. "	Kingston	Kingston Hill, Surrey.
V. "	Epsom	Dorking Road, Epsom, Surrey.
X. (Kilburn)	Paddington	Harrow Road, N.W.
X. "	Marylebone	Rackham Street, North Kensington, N.W.
X. "	Hammersmith	Ducane Road, Wormwood Scrubbs, N.W.
X. "	Willesden	Willesden Lane, Acton, Middlesex.
Y. (Highgate)	St. Pancras	King's Road, Camden Town, N.W.
Y. "	Holborn	Archway Road, Highgate, N.
Y. "	St. Mary's, Islington	Highgate Hill, Highgate, N.

NOTES.—*A medical certificate, or an order from a hospital or relieving officer, is required before cases can be admitted.
† Also included in Table A.
§ These Institutions are Workhouses, not Infirmarys (see Questions 2947-2953).

APPENDIX VI.

MEMORANDUM ON THE LIVERPOOL AMBULANCE SERVICE—(See Report, page 1).

INTRODUCTION.

(A).—The history of the principal steps leading up to the establishment of the Ambulance Service is, briefly, as follows:—

Thirty years ago the majority of the cases of accident and sudden illness occurring in the streets and public places in Liverpool were conveyed on rough stretchers or in cabs, carts, or other passing vehicles, only a few wheeled-litters and no horsed ambulances being then available, and at that time the Police on duty in the streets received no regular training in first-aid. In May, 1882, a service of 19 wheeled-litters, placed one at each police station, was established by the Watch Committee, and arrangements were made for the training of the Police in first-aid, through the St. John Ambulance Association. Shortly after this a horsed ambulance was provided out of public and private subscriptions and stationed at the David Lewis Northern Hospital, and arrangements were made for it to be accompanied to the scene of the casualties by third and fourth year students from the Hospital. Subsequently another horsed ambulance was established in connection with the Royal Southern Hospital. These ambulances were summoned by the Police, by ordinary telephonic means of communication, to such casualties as occurred in an assigned portion of the City and Docks.

Two events have now to be mentioned which had an important though indirect bearing on the question of the establishment of the ambulance system and the shape which that system took, namely:—

(a) In 1886 a force of Mounted Police was established, and at the same time arrangements were made for the fire engines (the Fire Brigade being then as now a branch of the Police Service in Liverpool) to be worked with the same horses as served the Mounted Police, instead of with hired horses as before.

(b) In 1896, after various experiments, there was established a system of Patrol Waggon (used for bringing in disorderly prisoners, taking a force of Police to the scene of a disturbance, etc.), horsed in connection with the Mounted Police and the Fire Brigade, and summoned by means of a special system of street signals, which will be described below.

In the following year, November, 1897, the Police Ambulance System was established, the Police taking over the ambulances from the David Lewis Northern Hospital and the Royal Southern Hospital and completing the service, which, save for the addition of an ambulance worked from an outlying police station, remains to-day substantially the same in scope and equipment as at its establishment.

It may be mentioned that the principal terms of the arrangement between the Watch Committee and the Hospital authorities were as follows: The Watch Committee offered to the Authorities of the Royal Infirmary, the David Lewis Northern Hospital, the Royal Southern Hospital and the Stanley Hospital to provide ambulances, horses, harness and drivers for day service at each hospital, provided that the hospitals undertook to provide the necessary stabling, etc., and also (if they desired it) the attendance of an Ambulance Surgeon, or Student qualified to render first-aid. The Watch Committee would complete the service by placing an ambulance at the Central Fire Station for the "night" service of the four hospital districts, and another at an outlying police station for the day and night service of the outer districts of the City.

(B).—A few words as to the City itself and the position of the principal hospitals and police stations may not be out of place.

Liverpool has roughly the shape of an oval, lying with one longer side North and South along the Mersey and largely occupied by the Docks, the length of the oval being about 10 miles and the width about 5 miles, and its area being about 21,200 acres; the length of streets, squares, etc., is about 500 miles, and the population (by the 1901 Census) 706,000.

The main accident area may be taken as an oval, 5 miles long by 2 miles wide, bounded on one side by the Mersey and the Docks, and extending 2 miles Eastwards into the City.

The Central Police Office, the Royal Infirmary, the David Lewis Northern Hospital, the Royal Southern Hospital and the Stanley Hospital all lie within the accident area, the Police Office nearly centrally, the David Lewis Northern Hospital half a mile to the North, the Royal Southern Hospital a mile to the South, both of these hospitals being close to the line of Docks; the Royal Infirmary is towards the East of the accident area (away from the Mersey), and the Stanley Hospital to the extreme North.

I.—AMBULANCE PROVISION.

The Ambulance Service consists of six one-horse ambulance waggons, which will carry two patients in a recumbent position and two or three, if need be, sitting up. They are suitably equipped with splints, bandages and other accessories for first-aid treatment. There are, besides, 22 hand ambulances (wheeled-litters) kept one each at the police stations, but there is very rarely any need for these to be used, and they are falling into disrepair—they have been practically driven off the field by the introduction of the horsed ambulances.

AMBULANCE STATIONS.

There are different services of horsed ambulances by day and by night:—

(a) *By Day*.—One of the ambulances is stationed at each of the four hospitals in the accident area above mentioned, and one at the Lark Lane Police Station, outside the accident area to the South, and one at the Old Swan Police Station in the Eastern suburbs, 4 miles from the Mersey.

The hours of the Day Service are as follows:—

Monday	8 a.m. till 7 p.m.
Tuesday till Friday	9 a.m. till 6 p.m.
Saturday	9 a.m. till 11 p.m.

(b) *By Night*.—Four ambulances only are in use, and they are worked from police stations. In the accident area one ambulance is brought to the Central Police Office, and one is moved from the Stanley Hospital to the Westminster Road Police Station, which is near the Hospital. The two ambulances in the suburbs work by night as well as by day from the Lark Lane and Old Swan Police Stations above mentioned.

II.—CLASSES OF CASES CONVEYED.

The ambulances are intended primarily for use in cases of accident or sudden illness occurring in the streets and other public places, in factories and in the docks, which are policed by City Force. They are, however, also available in cases of necessity for removal of "private cases"—cases of persons injured or ill in their homes or on other private premises; but a charge is then made (prepayment not insisted on) subject to remission in cases where the Head Constable is satisfied of the urgency of the case and the inability of the patient to pay.

The public notice calling attention to the ambulance facilities says in this regard:—

"The House Surgeon of a Hospital, by ringing up the Central Police Office . . . can obtain permission to use the Police Ambulance to remove a case of illness to or from the Hospital, provided an ambulance is absolutely necessary and the patient cannot pay for a private one. The Dispensary Doctors can obtain the same privilege for sending a case to a public or Workhouse Hospital."

The ambulances for the transport of persons suffering from infectious disease constitute a separate service altogether, and are under a separate authority—the Public Health Committee.

III.—HORSEING.

As mentioned above, in the Introduction to this Note, the ambulances are horsed in conjunction with the Mounted Police and Patrol Waggon establishments and the Fire Brigade, the same horses being used indifferently for one service or the other as may be convenient. This arrangement works with both economy and efficiency. The question of motor traction has been considered, but in view of the satisfaction given by the present horsing arrangement, it has not been thought advisable to introduce motor ambulances.

IV.—ACCOMMODATION.

At the hospital ambulance stations simple shelter and standing room are provided for the ambulance on or just adjacent to the hospital premises, together with stabling for the one horse which has to be kept in readiness. In view of the above arrangement for horsing the ambulances, and seeing that only one ambulance is worked from each station, elaborate station accommodation is not requisite. At the police stations the accommodation is on a similar scale.

The Watch Committee now pay each of the four hospitals £25 a year, nominally as rent for the ambulance accommodation, but really by way of contribution towards meeting the expense and trouble to which the hospitals are put in sending attendants with the ambulances (*see below*).

V.—STAFF AND ATTENDANTS WITH THE AMBULANCES AND POLICE FIRST-AID.

It will be convenient to deal with these important subjects together.

Each ambulance is driven by a policeman, and the ambulances starting from a police station are accompanied by a second policeman.

Every policeman on joining the force and before he is sent to a division for duty is instructed in first-aid work by one of the Medical Officers of the force, and has to take the examination of the St. John Ambulance Association and, later, the second and third examinations. Only some of the older members of the force are now unqualified, and of the 1,995 men of all ranks who formed the establishment on 31st December, 1907, 1,930 held the certificate for the first examination and 1,414 the medallion for the third examination. The corresponding numbers for 1906 were 1,898 (first examination) and 1,482 (third examination) respectively.

The policemen sent with the ambulance are not specially selected for their proficiency in first-aid and set apart for ambulance work, but that work forms part of the ordinary police duty. Superintendents would, however, have discretion not to put to ambulance work a constable who obviously fell short of the general standard of proficiency. With regard to ambulances starting from one of the hospitals, the rule is that a House Surgeon or Casualty Officer accompanies the ambulance. Subject to some relaxations in instances of special difficulty, this rule is still maintained.

The Committee personally visited three out of the four hospitals above mentioned—much to their regret they were prevented by the shortness of the time at their disposal from visiting the Stanley Hospital—and they made careful inquiry from the Medical Authorities they met there as to their opinion of the working of this system. They found that from the point of view of hospital management and economy, it is felt to be very troublesome to have to send a Casualty Officer or House Surgeon on receipt of any call for the ambulance, whether an officer is set aside for the purpose during the time the ambulance is at the hospital or whether the Casualty Officer has to be fetched from his work in the hospital when the call is received. At the David Lewis Northern Hospital three House Surgeons do duty as Ambulance Officers in rotation: at the Royal Infirmary there are two Ambulance Officers, one qualified, the other an advanced student with hospital experience. Moreover, the Casualty Officers whom the Committee saw were unanimously of the opinion that, in the majority of cases, there is no need for much first-aid treatment, and in most of these cases the policeman on the spot has done, and done well, all that is required.

The Liverpool police do not carry with them any first-aid appliances or dressings, but they are able skilfully to improvise bandages, splints, etc., out of materials which may be obtainable on the spot on the occurrence of an accident. The hospital authorities spoke highly of the skill which, almost invariably, the police show in their first-aid work. Every constable who applies necessary first-aid treatment in a street accident case skilfully and

efficiently, according to the report of the hospital authorities, receives from police funds a gratuity of 2s. 6d.; it rarely happens that the gratuity is withheld on account of the report being unfavourable. Thus there is generally nothing for the skilled ambulance attendant to do when he arrives on the scene of the casualty but see that the injured person is put safely in the ambulance. If the case is specially serious the surgeon coming with the ambulance would do what is necessary on the spot, not in the ambulance. On questioning as to the reason why so difficult an arrangement is maintained if there is so little for the ambulance attendant to do, the Committee found the opinion was expressed in some quarters that it was desirable, as a measure of precaution, to have a medical man with the ambulance: cases do, though very occasionally, occur when his skill is put to vital use, and it is desirable to maintain the confidence felt by the public in the provision made for their succour in the event of their suffering injury in an accident or being taken suddenly ill in the street. On the other hand, the view of the police was that the arrangement could not be considered necessary; but that is more a concession to the sentimental ideas of the "man in the street" than anything else.

In 1905 representations were made by the Hospital Authorities to the Watch Committee, pointing out the difficulty they experienced in carrying out the arrangements and suggesting that a policeman experienced in first-aid work should accompany the ambulance; a conference took place, but no alteration in the practice resulted.

The Liverpool Police Instructions with regard to accidents and ambulances are appended to this memorandum.

With regard to the amount of discretion left to the constable as to whether or not a cab or other means of conveyance may be used instead of an ambulance, it may be pointed out that the Instructions say:—

"If he (the sufferer) cannot walk and is not in a fit state to travel in a cab or tram, because travelling in either might aggravate his injuries or because he is bloody and would be objectionable to others, you must call up the horse or take him on a hand ambulance."

The Committee understand that the horsed ambulance is recognised and used by constables as the regular and proper means of conveyance whenever there is reason to suspect a person has suffered any serious injury. A constable would not incur censure for calling the ambulance if there was any reasonable ground for suspecting that serious injury had been suffered, even though on examination it turned out the injury was not serious. He would be censured for not calling the ambulance in a case which required it.

Extracts from the Instructions to Casualty and Ambulance Officers at the three hospitals visited by the Committee are also appended.

VI.—SIGNALLING SYSTEM.

An ambulance may be summoned in either of at least four ways:—

- (1) By personal application at the ambulance station.
- (2) By message to a police station, hospital or fire station, which will be transmitted by private police wire to the Central Police Office, and thence to the proper ambulance station.

These two methods are not frequently used; the method generally employed is one of the two following:—

- (3) By Public (National) Telephone to the Central Police Office, whence a message is sent by private wire to the proper ambulance station.

Liverpool is liberally supplied with telephones, which are often used by private persons for summoning an ambulance, and the Police have no difficulty in obtaining, when required, the use of a subscriber's line for the same purpose.

- (4) By means of one of the electric street signals.

The system of street signals, which serves for summoning the patrol waggons and fire apparatus as well as the ambulances, consists of 265 iron signal boxes, each about 2 ft. by 1½ ft., painted red, and fixed in suitable prominent positions in the streets, on railings, walls, etc. They are arranged 8 or 10 in a circuit, and communicate electrically (in four groups) with four telephone stations, one of which is the Central Police Office itself, to which also the messages received at the three other telephone stations are retransmitted.

Each signal box contains a telephone and six signal handles as follows—

- (1) "Fire 1."—For alarm in case of an ordinary fire.
- (2) "Fire 2."—In case of a serious fire.
- (3) "Wagon A."—To summon a patrol waggon in an ordinary case—to bring in a resisting prisoner, for instance.
- (4) "Wagon B."—To summon a patrol waggon and a force of constables to the scene of some serious disturbance.
- (5) "Ambulance."
- (6) "Telephone."—To call attention to the fact that the telephone is about to be used.

There is an arrangement by which a constable, without opening the signal box, can register the fact of his passing the box, which may be used to check the regularity of a constable patrolling his beat. The boxes are kept locked; every constable carries a key, and on payment of a deposit of a guinea and a small annual fee a private person may obtain a "citizen's key" which will give him access to the boxes; this privilege, however, is now very little used. Each citizen's key bears a number by which it can be at once identified, and differs from the policeman's key in that when it has been used to open the box it cannot be removed from the lock without the assistance of a constable's key. This ingenious arrangement is, of course, designed to check any abuse of the citizen's key system. When the ambulance call is given, an automatic tape instrument in the telephone room at the Central Police Office prints off symbols giving the number of the box from which the call was sent, the nature of the call (in this case for the ambulance), and the time, within five minutes, when the call was sent. If necessary the automatic signal may, of course, be supplemented by use of the telephone. From the Central Police Office all necessary particulars are sent at once by private police telephone to the proper ambulance station.

The Committee were informed that this signal system has not given complete satisfaction, mainly on the ground of the cost in proportion to the services it renders, and the difficulties which arise in the working on account of the complication of the mechanism; this complication of the mechanism in itself increases the chance of hitches occurring, and when one signal is out of gear all the other signals on the same circuit (seven or nine, as the case may be) are also thrown out of gear. Moreover, the tape-recording instrument is not very expeditious, taking 95 seconds completely to record a call. For these reasons it has been decided to replace this signal system by a system of 171 street telephone call boxes. It is estimated that the cost will be about half the cost of the present system, that the working will be more reliable and at the same time more expeditious, a call being given and received in, say, 15 seconds, as against 95 seconds with the present apparatus.

VII.—Cost.

Seeing that the Ambulance Service is worked in such close connection with the Mounted Police, the Patrol Waggons and the Fire Brigade, there is some difficulty in setting out the cost of the former separately. The following is the estimate of the annual cost furnished to the Committee by the Head Constable:—

Pay, clothing and pension liability of 11 police drivers and 5 attendants at £90.	£ 1,440
Forage for 7 horses	200
Replacing of cast horses	70
Shoeing and veterinary attendance	50
Maintenance and replacing of ambulances	150
Appliances, splints, bandages, etc.	10
Harness	20
Telephones	50
Contribution to Hospitals (nominally rent of ambulance stations)	100
Total	£2,090

This figure does not include anything for establishment or stabling.

VIII.—NUMBER AND NATURE OF CALLS RECEIVED AND ANSWERED AND TIMES TAKEN.

The number of calls for the ambulances and the number of patients conveyed during the last two years were as follows:—

1906: Calls, 2,960;	Patients conveyed, 2,944.
1907: Calls, 3,161;	Patients conveyed, 3,108.

The following analyses of one month's work (December, 1907), show the relative proportions between the number of calls of different causes and between the cases conveyed with a medical attendant (hospital cases) and without a medical attendant (police station cases) respectively:

Nature of Calls.

Accident cases	17½
Removal from Hospital to Workhouse	21
Private cases	37
Ambulance not required on arrival at scene of accident	13
Total	246

Accident Calls.—Calls at each ambulance station and destination of ambulance:—

Turn-out from:—

Hospitals:

Northern (day)	39
Southern (day)	19
Royal Infirmary (day)	14
Stanley (day)	32
Total (Hospitals)	104

Police Stations:

Lark Lane (day and night)	14
Old Swan (day and night)	11
Central Office (night)	38
Westminster Road (night)	8
Total (Police Stations)	71
Total	175

Taken to:—

Hospitals:

Northern	61
Southern	31
Royal Infirmary	30
Stanley	40
Total (Hospitals)	162

Workhouses:

Brownlow Hill	7
Mill Road Infirmary	4
Belmont Road	1
Toxteth	1
Total (Workhouses)	13
Total	175

Time Taken.—In the same 175 accident cases the average time between the summons and the arrival of the ambulance on the scene of the casualty was 9½ minutes. The average time from the summons to the arrival of the ambulance, with the patient, at the hospital was 24½ minutes.

A case was mentioned to the Committee of an explosion at the Docks, which illustrates the capacity of the service, when within half-an-hour of the explosion there were on the spot seven horsed ambulances and four other vehicles capable of carrying patients in a recumbent position, and 30 patients were speedily conveyed to hospital.

LIVERPOOL POLICE INSTRUCTIONS.—Accidents.

In case of an accident of any sort your first duty is to go and see how you can make yourself useful. As a rule, the first thing to do is to prevent the gathering of a crowd and so prevent further danger. Curiosity makes many people rush in whenever an accident occurs; they get into the way of those who are concerned, and generally

make things worse. But, of course, you should be careful to be civil in clearing them away.

If anybody has been hurt your next duty is to get him attended to as soon as possible. If there is no doctor at hand render such first-aid as you are able pending the

arrival of one. This is a part of your duty in which you should take an intelligent interest; you are instructed in giving first-aid, and the Watch Committee, in order to encourage it, give a reward in every case of first-aid efficiently rendered.

If after you have rendered first-aid the sufferer is able, alone or with his friends, to make his way home or to the dispensary or hospital for treatment there will be no need for you to leave your beat; but if he cannot walk and is not in a fit state to travel in a cab or tram, because travelling in either might aggravate his injuries or because he is bloody and would be objectionable to others, you must call up the horse or take him on the hand ambulance.

If a serious accident causes injury to many persons or causes public danger or excitement telephone to the C.P.O., so that adequate arrangements may be made, and also that word may be passed to Corporation Departments and other persons whose interests are affected or whose presence or assistance may be wanted.

Ambulances.

Hand ambulances are provided at nearly all the stations, and in addition there is a complete system of horse ambulances working from the hospitals by day and from the stations by night. For this purpose the city is divided into districts, but to summon the ambulance it is only necessary to pull down the fifth lever in the signal box, when the telephone operator will transmit the call to the proper ambulance station.

The horse ambulance is only to be called when the sufferer has to be taken to hospital for treatment and is unable to walk or to go in the ordinary way in a cab or tram. Of course, if he is injured about the legs or back and it is necessary that he should be carried in a recumbent position, or is unconscious, or if he is not fit to travel in a public conveyance because he is covered with blood, he is a case for the ambulance; but small injuries to the arms or hands, for which first-aid gives temporary relief, are not as a rule cases for it.

The horse ambulance is intended primarily for use in accident only. It can only be used in medical cases by special permission of the Head Constable, which as a rule will only be given when the patient cannot afford to pay for a private ambulance. Persons who apply for its use must be referred to the C.P.O., where the Inspector on duty has authority to deal with applications made when the Head Constable's office is closed. The regulations for the special use of ambulances are to be seen at all ambulance stations and the C.P.O., and are supplied to all the hospitals and dispensaries.

The ambulance is not as a rule to be used for the conveyance of a dead body except when it has been summoned under the impression that the person was alive, when the body can be taken to the mortuary or the hospital, as the surgeon may request.

INSTRUCTIONS TO CASUALTY SURGEONS AT THE LIVERPOOL HOSPITALS.

DAVID LEWIS NORTHERN HOSPITAL.

(Extract from the General Rules for Resident Medical Officers.)

That ambulance calls must be attended to by the House Surgeon on duty; if he be engaged in any duty in the Hospital which it is impossible for him to leave, the House Physician on duty will take his place, and give preference to any call over his ordinary work.

That on reaching the patient he determine the nature of the injury or disease, administer such temporary treatment as may be appropriate, and convey the patient without delay to the Hospital. That, except in case of absolute necessity, he do not permit a dead body to be brought to the Hospital.

That on arrival at the Hospital he superintend the removal of the patient to the Ward, and, before attending to any other duty, write in the Record Book the full particulars of the case.

That the attendance of Resident Medical Officers on casualties and ambulance be according to a table to be arranged and exhibited in the Board Room, Medical Board Room, and in the room of the Senior Resident Medical Officer.

That a Student be not allowed to be sent out with the ambulance without express permission of one of the Honorary Surgeons or Physicians. If a Student be sent out in any case, with the consent of one of the Honorary Staff, the case must be seen by the House Surgeon on duty immediately on its arrival at the Hospital.

ROYAL SOUTHERN HOSPITAL.

(Rules for Horse Ambulance Service.)

1. The Resident on ambulance duty shall be responsible for and superintend, the Ambulance Department during the hours he is on duty.

2. He shall see that the proper Surgical and Medical necessities are kept ready for use in the carriage.

3. It will be the special duty of a Resident on ambulance duty to accompany the ambulance carriage on its journeys.

On no account shall the carriage be sent out from the Hospital unattended by a Medical Officer.

4. On reaching the patient, the Ambulance Officer shall determine the nature of the injury or disease, adopt such temporary treatment as may be appropriate, and convey the patient without delay to the Hospital, or to such other place as he may deem desirable.

5. On arriving in the Hospital, and immediately after attending to his patient, he shall write in the Record Book the full particulars of the case as it has come under his observation.

6. In the event of a call from a ship lying in the river or dock, he is to proceed on board, taking with him the stretcher (which shall be conveyed at the expense of the applicant), and the carriage shall wait until the case is brought on shore.

7. The Residents shall be on duty for ambulance work during the hours specified by the Head Constable *i.e.* :—

Monday	8 a.m. to 7 p.m.
Tuesday to Friday	9 a.m. to 6 p.m.
Saturday	9 a.m. to 11 p.m.

ROYAL INFIRMARY.

(a) (Extracts from Regulations as to Resident Medical Officers.)

The Casualty Officers shall be either Registered Medical Practitioners or Students considered by the Medical Board to be competent to render first-aid.

The Casualty Officers shall in their turn accompany the ambulance, and shall render such assistance in the hospital as the Committee and the Medical Board shall from time to time determine.

(b) Regulations as to Casualty Officers.

The attention of Medical Officers on casualty duty is particularly drawn to the following rules :—

1. The Resident Medical Officer on Casualty duty shall be in readiness promptly to attend to ambulance calls, and to treat casualties and emergency cases brought to the Infirmary at any time.

2. He shall be considered to be in charge of these cases until they are admitted to the wards or until they are discharged from the hospital.

3. It shall be the special duty of the Casualty Officers in turn to accompany the ambulance carriage on its journeys.

4. On reaching the patient, they should determine the nature of the injury or disease, administer such temporary treatment as may be appropriate, and convey the patient without delay to the hospital.

5. On arrival at the hospital, they shall notify the House Physician or Surgeon on duty, and shall at once write in the Record Book the full particulars of the case as it has come under their observation. The House Physician or Surgeon shall then without delay make a thorough examination, and assume the care of the case.

6. No such case shall be discharged until it has been investigated by a Medical Officer who is registered under the Medical Acts.

7. Unless he is a Registered Medical Practitioner, a Casualty Officer shall not undertake any attention to a patient more than the rendering of first-aid, and he shall immediately call in the assistance of the House Physician or Surgeon on duty for any case which requires more serious treatment.

APPENDIX VII.

MEMORANDUM ON THE MANCHESTER AMBULANCE SERVICE—(see Report page 1).

INTRODUCTION.

(A).—The Manchester Municipal Ambulance Service was established in October, 1901. Previously, the means of conveying sick and injured people through the streets consisted of wheeled hand-litters kept at the Police Stations throughout the City, and passing cabs, vans and other vehicles. The Authorities of the Royal Infirmary had considered a proposal to establish a Horsed Ambulance Service to be worked by and at the expense of the Municipality, save as regards the medical and nursing help and the Ambulance Station which it was proposed to provide at the Infirmary. This scheme, however, did not come to fruition.

In October, 1901, the Watch Committee decided to establish a Horsed Ambulance Service, to be worked in connection with the Police Force. One of the police stations in the centre of the City was altered to provide suitable accommodation for three horsed ambulance vans, together with stabling accommodation for horses and residential quarters for the staff. The service has since been considerably extended, and at the present time nine ambulance vans are worked from three different stations, and a fourth station is provided with ambulance accommodation, which will, probably, be brought into use at an early date.

The Ambulance Service is operated as a distinct Department, but is associated with the Police Force. The ambulance stations are part of or connected with police stations, and the men engaged in the Ambulance Department are police officers attached to the Force, but permanently employed in the Ambulance Department.

(B).—The area of the City of Manchester is nearly 20,000 acres; the length of streets, squares, etc., is about 770 miles; and the present estimated population is 643,000 (1901 Census, 607,000).

There are two main accident areas for purposes of the Ambulance Service, namely, one of about 2½ square miles in the central portion of the City, whence mainly street accidents are taken; and the other of about 4 square miles to the East of the City, in the manufacturing quarter, whence most of the mill and workshop accidents are taken. The Royal Infirmary is practically centrally situated in the central accident area, and the Ancoats Hospital is within the "manufacturing" accident area.

I.—AMBULANCE PROVISION: VANS, STATIONS, HORSES.

The Ambulance equipment in January, 1908, consisted of nine horse-drawn vehicles, namely:—

(a) *Seven Ambulance Vans*.—These ambulances are not all of the same design, but each is ordinarily used as a one-horse vehicle and can be converted into a two-horse vehicle as required. Each ambulance is of approved modern pattern, strong, light, roomy and well fitted, with accommodation for two patients on removable stretchers or litters, which are placed one above the other. There is also sitting accommodation for two persons. The more recently acquired vehicles have been built by a prominent firm of Ambulance Specialists and care has been taken to secure the incorporation of the latest improvements in ambulance design.

(b) *One Brougham Ambulance*.—This vehicle was specially built and obtained for use in the removal of private cases, and is much in demand by doctors and the public for that purpose. This ambulance also can be used either as a single or pair-horse vehicle. Externally it has the appearance of a private brougham, but internally it is excellently fitted as an ambulance, containing a stretcher and all necessary appliances, together with sitting accommodation for a doctor and nurse or other attendant. The brougham opens at the rear for the passage in and out of the stretcher, as well as at the side for the entrance and exit of the doctor and attendant. Police Officers accompanying this Ambulance are in plain clothes. The cost of the vehicle was

£141. A slight extra charge over the scale of charges for one of the ordinary ambulances is made for the use of this vehicle.

(c) *One Lunatics' and Prisoners' Removal Ambulance Van*.—This vehicle is more plainly fitted and more strongly made than the other ambulance vans. It is used when necessary for the transport of lunatics from the streets to the police courts or to the Workhouse Asylum; also for the conveyance of sick and injured prisoners from police stations to hospitals or other institutions.

There are also 30 two-wheeled hand litters kept, one at each of the twenty-five police stations and one at each of five fire huts at various points in the City. There are in addition 50 hand litters kept at the head-quarters of the divisional police stations. The two wheeled hand-litters are of good type and are frequently used for the conveyance of cases of minor injuries or slight illness occurring near a police station or hospital, when the removal can be speedily effected by this means. In all cases, however, where the injury or illness is of an apparently serious nature or where the distance from the infirmary or hospital is considerable, the horsed ambulance is summoned to convey the case to the infirmary or hospital for treatment.

The six prison vans which are used for the removal of prisoners to and from the City Police Courts and to the Prison, which is situate within the City boundary, are accommodated at the ambulance stations and are worked by the ambulance drivers and horses.

There is also a mortuary van for the conveyance to the mortuary of bodies found in public places and bodies upon which the Coroner has ordered a *post-mortem* examination.

No patrol waggons are used in connection with the Manchester Police.

The Ambulance Stations are as follows:—

(1) *Goulden Street Ambulance Station*.—This is the first station to be established as an ambulance station and was opened on the 14th October, 1901. It was provided by adaptation and structural alterations at an existing police station situated near the centre of the central accident area. It accommodates three ambulance vans, the ambulance brougham, the lunatics' and prisoners' ambulance van, and the mortuary van. There are loose boxes for six horses and stabling for three more horses. Adequate residential quarters are provided for the ambulance staff.

(2) *Mill Street Ambulance Station*.—This Station, which was opened for work in January, 1904, was designed and built as an ambulance station in connection with a new police station. It is situated in the midst of a manufacturing quarter and within easy distance of the Ancoats Hospital. One ambulance van and four prison vans are accommodated here and there are loose boxes and stalls for six horses. There are also excellent quarters for the drivers and attendants attached to the station.

(3) *Moss Lane East Ambulance Station*.—This Station is situated in an outlying suburban district which was amalgamated with the City in 1904. The Public Offices of the late Local Authority were taken over and by reconstruction an excellent ambulance station was provided adjoining a separate fire station. This ambulance station was opened for work in May, 1907, and provides accommodation for two ambulance vans and loose boxes and stabling for six horses and quarters for the drivers and ambulance attendants.

(4) *Whitworth Street (City)*.—This Station has not been brought into actual use. It was considered desirable, in view of the rapid development of the Ambulance Service, to have further accommodation ready, and opportunity was taken in the erection of a new police station to provide at the same time an ambulance station. At the present time four horses and three prison vans are accommodated at and worked from this station. There is also ample accommodation for ambulance vans and residential accommodation on most modern lines for the staff. In the near future ambulances will probably be placed here,

and the station used as an additional ambulance station for the central portion of the city.

The Committee visited and inspected all the ambulance stations which are now in use. They found them excellently and—particularly the new stations—attractively appointed, very roomy, light, clean, and airy, and in every case ingeniously fitted with modern appliances and arrangements for facilitating the rapid dispatch of an ambulance on receipt of a call.

The general arrangement at each ambulance station is to have the large doors of the station opening on to a tiled forecourt, which is covered in and forms part of the station. The ambulances stand in the forecourt, each vehicle directly facing one of the doors of the station, with complete harness suspended from the ceiling so as to hang immediately in front of each van. At the rear of the vans is a row of loose boxes for the horses; in a convenient situation at the side of the forecourt is an office, containing the telephones by which the calls are received, books for recording particulars of cases, calls, etc., and above and behind these premises are stabling for more horses, harness and store rooms, etc., and the residential quarters for the ambulance men.

On receipt of an accident call over the telephone an alarm bell is rung, whereupon the driver of the ambulance next in turn for service takes his place on the box. The other drivers on duty at once open the door of the nearest loose box, and the horse, which is trained to trot out immediately the door of the stall is opened, trots to its position in front of the ambulance van. A cord is pulled, which allows the harness to descend and at the same time automatically opens the large outer doors; the harness is buckled on in a few seconds by the men attending to the horse, and the driver, who in the meantime has received instructions as to the place where the ambulance is required, and any other necessary particulars received over the telephone, at once drives off. The turn-out is generally effected within from 30 to 45 seconds from the receipt of the call, and upon the visit of the Committee a turn-out was effected in 17 seconds from the time the alarm bell was rung.

As an instance of the way in which the ambulances can, if necessary, be concentrated on one spot, the Committee were informed that on a recent occasion when a floor gave way in a building in Albert Square, opposite the Town Hall, and many persons were precipitated into the room below and seriously injured, five ambulances were on the scene within 15 minutes, three arriving within five minutes from Goulden Street station, which is a quarter-of-a-mile off (notwithstanding they had to travel through the centre of the City, with its congested traffic), and the other two from Moss Lane East station, which is over a mile distant from the scene of the accident. Without loss of time the injured, numbering about 20, were conveyed to the Infirmary, and there was no necessity to resort to other means of conveyance.

The ambulance drivers use the ordinary police whistle to give warning of their approach. Generally there is no difficulty in clearing the traffic to permit of the passage of the ambulance at a brisk pace. The ambulances are not as a rule driven at the highest possible speed, in consequence of the density and exceptionally heavy traffic they have to pass through in the main streets of the City.

The following particulars are recorded with regard to each call:—number of call (for reference), date, time of call, time the ambulance left the station, place the ambulance was called to, time of arrival, name, address and age of the injured or sick person, place conveyed to, time of arrival, nature of injuries, time of return to station, single or pair horse ambulance used, number and name of driver and others engaged, fees (if any), number of receipt for fees, remarks. A return of the calls is made to the Head Police Office each week.

II.—SCOPE OF THE SERVICE.

The ambulances are available by day and night, free of charge, in all cases of accident and sudden illness, whenever occurring in the City in any street, workshop, factory, business house, place of public entertainment or resort, or in private premises if the ambulance is summoned within a reasonable time after the accident, conditionally in each case upon the removal of the sufferer to a Hospital or similar institution forthwith for professional treatment. The total number of such calls received in 1907 was 2,077. The use of the ambulances is also permitted for the removal of private cases of non-infectious illness, including cases in

which patients have been under professional treatment but require removal to or from their homes to Railway Stations, Nursing Institutions, Infirmarys, Convalescent Homes, etc. In these cases a fee is charged, at present according to the undermentioned scale, viz.:—

	s.	d.
Removal within one mile of the Royal Infirmary	3	6
Removal beyond one mile of the Royal Infirmary, but within the City boundary ..	5	0
Removal beyond the City boundary, special arrangement.		

A small extra fee is charged when the brougham ambulance is used.

The original scale of fees on the establishment of the service in 1901 was almost double the present scale. In special cases no fee is charged for the removal of a private case if the Head Constable is satisfied as to the urgency of the removal and as to the poverty of the person on whose behalf the ambulance is required. Applications for the use of the ambulances in private cases are made upon a special form, which is sent to the Head Constable's Office, and a declaration must be given that the case is not one of an infectious disease. On payment of the prescribed fee an order is sent from the Head Constable's Office to the ambulance station, and an official receipt is given to the person paying the fee. In 1907 there were 761 private cases transported, and the fees earned amounted to £237 12s. 6d.

The establishment of the Ambulance Service was made known to the public by notices in the Press, by the delivery of a circular to every employer of labour in the City, and by a special circular letter to the management of each Hospital, Infirmary and similar institution, to Nursing Homes and to the Medical Profession.

The Ambulance Service is also used to some extent for the conveyance of Poor Law cases, an agreement having been entered into between the Watch Committee and the Guardians of one of the Poor Law Unions for such ambulance transport facilities as they required for Poor Law cases during the year 1908 for the sum of £300, the Guardians to establish at their expense telephonic communication between their offices and the nearest ambulance station (Moss Lane East), and to give the necessary notification to the ambulance station and to the sick person of the arrangements made for the removal. At the date of the Committee's visit (January 24th) nearly 400 cases had been removed under this contract, which came into operation on January 1st.

The transport of persons suffering from infectious disease is not on any account undertaken by the Police ambulances, but is altogether in the hands of the City Health Department.

III.—STAFF, FIRST-AID, AND ATTENDANTS WITH THE AMBULANCES.

The ambulances are sent out from the stations in cases of accident accompanied only by the driver, but a Constable is picked up on the way, and he accompanies the patient to the Hospital. No doctor is taken to the scene of the casualty or wherever the ambulance is wanted. The Committee found on inquiry that the practice of sending the ambulance unaccompanied by a doctor is considered by the Hospital authorities and other medical men to work quite satisfactorily. In the case of the removal of a woman who is injured or taken ill in the street, if the call to the ambulance station discloses the fact that the patient is a woman, a matron from the adjoining police station is always taken with the ambulance, and she accompanies the patient to the Infirmary.

The police officers, drivers and attendants at the ambulance stations are all qualified first-aid men, selected for their character, trustworthiness, skill in first-aid work and knowledge of horses. They are set apart solely for ambulance work, and have no other duties, save acting as drivers of the prison vans and occasionally performing mounted police duty; they do not do ordinary police duty in the streets.

The staff on the establishment of the Service in 1901, when three ambulances were worked from Goulden Street station, consisted of one Inspector and five Constables.

The present staff consists of two Inspectors and nineteen Constables.

The distribution of the staff, equipment and horses may be summarised as follows:—

GOULDEN STREET:—

*Staff:—*2 Inspectors, 8 Constables.
*Equipment:—*3 Ambulance Vans, 1 Mortuary Van,
 1 Brougham, 1 Lunatics' and Prisoners' Van.
*Horses:—*9.

MILL STREET:—

*Staff:—*44 Constables.
*Equipment:—*1 Ambulance Van, 4 Prison Vans.
*Horses:—*6.

MOSS LANE EAST:—

*Staff:—*5 Constables.
*Equipment:—*2 Ambulance Vans.
*Horses:—*6.

WHITWORTH STREET:—

*Staff:—*2 Constables.
*Equipment:—*3 Prison Vans.
*Horses:—*4.

The ambulance men receive 1s. 6d. per week extra pay above the ordinary pay of corresponding Police ranks, and have in addition residential quarters at the ambulance stations, with rent, coal and gas free. The gross extra pay thus amounts to about 10s. per week. Nearly all the ambulance staff are married men.

With regard to first-aid training of the ordinary Police, the Regulations provide that every officer on joining the Force must attend a special class arranged for the Police, with the Police Surgeons as instructors, and the men are expected to pass the St. John Ambulance Association Certificate Examination by the end of the first year. At the present time 1,030 men out of the Force of 1,185 hold St. John Ambulance Association Certificates. There is also a Force of 150 men who are specially drilled in first-aid work, including stretcher drill by a Police Inspector, and these men may be called upon in case of any serious disaster or disturbance in which many people are injured.

The Police on duty in the streets do not carry with them any first-aid appliances such as tourniquets or dressings, but they are instructed and are generally able very skilfully to make use of improvised splints, bandages, and so forth. In instructing them the line taken is that they should not as a rule endeavour to apply first-aid treatment, their duty being rather to see that the ambulance is promptly summoned and that the injured person is kept quiet and safe pending its arrival, save in cases of special urgency, such as poisoning or severe hemorrhage, when they should endeavour to afford relief by simple means in accordance with the instructions they have received from the Police Surgeons.

The following paragraph appears in the Police Instruction Book under the head "Horse Ambulances":—

"The Police will, of course, exercise a reasonable discretion in summoning the ambulance, but, when in doubt as to the seriousness of the injuries or illness, they must immediately send for the ambulance, and convey the patient to the hospital for treatment."

The Police are allowed to exercise individual discretion as to whether the particular case shall be conveyed on a wheeled litter or by a horsed ambulance. As previously mentioned, the wheeled litters placed at the several police stations are still used by the Police in cases of minor injuries occurring in proximity to a police station.

The following is the paragraph in the Police Instruction Book dealing with this point:—

"(3) Telephone for the horse ambulance, or send to the nearest police station for the hand litter, according to the seriousness, urgency or circumstances of the case."

The police are not given any discretion as to summoning a cab or other vehicle; they must either summon the horsed ambulance or obtain the two-wheel litter. The police are allowed to exercise discretion as to whether or not they should summon a doctor to the scene of the casualty. This step is taken by Police in comparatively few cases, but doctors are very frequently summoned by private persons.

A copy of the Police Instructions dealing with Accidents will be found appended to this memorandum.

IV.—SIGNALLING

The method of summoning an ambulance is by telephone or messenger. There is a private telephonic system connecting all police, fire and ambulance stations in the City, which is used together with the ordinary (National) Telephone Service. There are at present no street automatic ambulance calls, but a proposal is under consideration by the City Council for the installation of a system of street automatic fire signals, and it is probable that arrangements may be made by which this apparatus could be used to give ambulance calls.

The method of giving ambulance calls by ordinary telephone was brought prominently to public notice when the ambulance service was established and the facilities for its use published, and the telephone is now the means invariably used by the public for summoning an ambulance to a casualty. For the purpose of expediting police calls a careful survey was made of the City and permission obtained from over 800 subscribers to the National Telephone Service for the use of their telephones whenever required by the Police to call an ambulance. These telephones were carefully selected, and the distribution is such that every constable on a beat has a number of these telephones conveniently accessible. A list, giving the address, hours at which the telephones are available, and so forth, is furnished to every constable, is printed in the Police Instruction Book, and is prominently displayed in each police station, and every constable quickly learns to know each telephone upon his beat. The majority of the telephones are, of course, only available during ordinary business hours, but many are accessible to the Police both by day and night. During the ordinary business hours it is calculated that in the busy portions of the City, where, owing to the great amount of traffic, accidents are most likely to occur, there is a telephone available within every 100 or 200 yards. In addition there are at the police stations the police private telephones by which a call can be given.

A number of the large employers of labour have ambulances of their own, which they use to convey injured workpeople to the hospital. These firms, however, owing to the rapidity with which the municipal ambulances can get to the scene of the accident and to the skill of the ambulance attendants, frequently use their telephone to summon the municipal ambulance in preference to using their own vehicle.

The Committee carefully inquired as to how the system of signalling in operation met the needs of the ambulance service and found that, so far as they could discover, it gave general satisfaction. One obvious advantage is that it entails no additional cost upon the ratepayers. Further, it is available for all kinds of accidents wherever they occur. In the area outside the central portion of the City, where the police beats are longer, the ambulance can be and often is summoned by a private person and the injured person transported to Hospital without any delay arising through trying to find a constable. Further, the time of the Police is saved in those cases in which it is not necessary to take him from his beat, and when he is on the scene of the accident or is called to it he can devote his attention to the patient while a bystander gives the call for the ambulance from the nearest telephone.

V.—Cost.

The Committee have been furnished with the following particulars of the approximate cost of the Municipal Ambulance Service:—

(a) Initial cost of buildings (including residential quarters)—

Goulden Street	£2,000
Moss Lane East	£2,000
Mill Street	£5,000
Whitworth Street	£3,000

(b) Horses (average cost per horse) £45
 Vans (average cost per van) £140
 Saddlery, etc., (average per horse) £20

(c) Wages and allowances of drivers and attendants, provender, etc., for horses and general maintenance expenses per annum. £3,000

VI.—NUMBER AND NATURE OF CALLS
RECEIVED AND ANSWERED, DISTANCES,
TIME TAKEN, AND FEES EARNED.

The following table shows the number of accident cases and private removals and the fees received in each year since the Ambulance Service was established.

Year ended 31st Dec.	Accident Cases.	Private Cases.	Total.	Fees received for private removals.		
1902	1,133	266	1,399	£	s.	d.
1903	1,007	344	1,351	101	3	6
1904	1,100	390	1,490	119	12	6
1905	1,488	513	1,901	163	16	0
1906	1,687	648	2,335	175	15	6
1907	2,077	761	2,838	226	8	6
				237	12	6

The Committee have been furnished with an abstract of particulars of all the cases of accident and sudden illness (excluding "private cases") in which an ambulance was used in one month (April, 1908). The following is a summary :—

	Goulden Street.	Mill Street.	Moss Lane East.
Number of Persons Con- veyed :—			
Males	54	9	11
Females	23	10	7
Total	77	19	18
Nature of Injury or Illness :			
Fractures	12	4	3
Wounds	19	4	3
Fits	9	—	—
Crushed	1	1	—
Miscellaneous	36	10	12
	77	19	18
Approximate Distance from Ambulance Station to scene of casualty and Infirmary :—			
Under ½ mile	21	—	1
½ mile and under 1 mile	25	3	—
1 mile and under 1½ miles	16	9	6
1½ miles and under 2 miles	10	5	11
2 miles and under 3 miles	2	—	—
4 miles	1	—	—
6 miles	1	—	—
Average Distance ..	1 mile.	1·2 miles.	1·3 miles.
Time from receipt of call to arrival at Hospital :—			
Under 10 minutes	20	1	1
10 minutes and under 20	45	11	8
20 minutes and under 30	8	5	7
30 minutes and under 40	1	—	2
41 minutes	1	—	—
90 minutes	1	—	—
Average Time.. ..	14·5 min.	16·8 min.	20·3 min.

MANCHESTER POLICE INSTRUCTIONS (Accidents).

In cases of accident or illness in the streets or public places the duty of the Police called on the scene is to render all possible assistance: first, to relieve the sufferer; secondly, to protect the sufferer; and, thirdly, to remove any vehicular or pedestrian obstruction caused by the accident. This three-fold object can best be attained by attending to the following points, viz :—

- (1) Prevent the crowd from pressing on the sufferer so as to exclude air.
- (2) Apply the principles of first-aid in order to temporarily relieve the sufferer.
- (3) Telephone for the horse ambulance, and send to the nearest Police Station for the hand litter, according to the seriousness, urgency, or circumstances of the case.
- (4) Obtain the name, address, age, and occupation of the person injured, of the person causing the injury, and of the circumstances generally; and as soon as possible make a full report thereon for the information of the Superintendent.
- (5) Immediately the person recovers, if the illness is only temporary, or the person has been removed,

if the illness or injury is serious, set the traffic in motion, and clear the crowd away.

The officer called to the scene of the accident must, as far as possible, prevent the injured person being robbed of any property, and also guard against the operations of pickpockets, who frequently take advantage of the confusion created in a crowd round a street accident.

In Standing Order No. XVI. is given the list of firms and private persons who are subscribers to the National Telephone system, and who will allow police officers to use their telephones to call the horse ambulance in cases of street illness and accident. The list must be carefully noted for use at any time.

The following are a few simple rules which should be learnt by every constable, to put into practice when called to a street accident, viz :—

- (1) Give air, and prevent people crowding in.
- (2) Loosen the collar.
- (3) Raise the head.
- (4) Reassure the sufferer, speaking quietly, and do not annoy by idle questions.

COPY OF THE LETTER ADDRESSED TO EMPLOYERS OF LABOUR
IN THE CITY NOTIFYING THEM OF THE ESTABLISHMENT
OF THE AMBULANCE SERVICE.

Chief Constable's Office,
Town Hall, Manchester,

4th November, 1901.

Dear Sir,

I have pleasure in informing you that the Watch Committee have now established, in connection with the Police Department, a Service of Horse Ambulances for use in cases of accident in the streets or elsewhere, to remove the sufferer to the Royal Infirmary or other Institution for treatment.

The Ambulances, for the present, are stationed at Goulden Street Police Station, where suitable stabling and accommodation for the horses and ambulances have recently been provided by the Watch Committee.

The Ambulances are available—free of charge—for the removal to the Infirmary or other Institution of any case of accident, etc., occurring in any mill, warehouse, workshop, street, or elsewhere within the City, either by day or by night.

The Goulden Street Police Station is connected with the National Telephone Company's Exchange, the number of the Station being: "Ambulance, 484."

As representations have been made to the Watch Committee from time to time of the need in this City of an Ambulance for the removal of cases of serious illness other than street accidents to the several Hospitals and similar Institutions in Manchester, the Watch Committee have decided to permit the use of the Horse Ambulances for the conveyance to or from the Royal Infirmary or other Institution of any private case of serious illness—non-infectious—at the following charges, viz :—

If the removal is within one mile of the Royal Infirmary, 7s. 6d. per removal.

If the removal is beyond one mile of the Royal Infirmary, 10s. per removal.

For removals beyond the City boundaries, a special charge according to the distance. A servant of the Corporation will, in every case of removal, accompany and be in charge of the Ambulance.

Application for the use of the Ambulance for the removal of cases other than accidents must be made direct to the Chief Constable, Town Hall, Manchester.

Yours truly,

ROBERT PEACOCK,
Chief Constable.

- (5) If there is extensive bleeding, tie a handkerchief as tightly as possible three inches above the wound, and another over the wound itself. If the blood is black, and running freely (not spurting, from a wound in the leg or a varicose vein, the limb should be raised, and a handkerchief tied tightly below the bleeding point.
- (6) Move the sufferer as carefully as possible.
- (7) Prevent any broken limb from hanging down.
- (8) If animation is suspended, as in the case of persons rescued from drowning or hanging, endeavour to restore breathing by one of the following methods:—

Drowning.—Send immediately for blankets and dry clothing, but proceed to treat the patient instantly, securing as much fresh air as possible.

Endeavour first and immediately to restore breathing; and, secondly, after breathing has been restored, promote warmth and circulation. The effort to restore life must be persevered in until the arrival of medical assistance, or until the pulse and breathing have ceased for at least an hour.

(Here follow detailed instructions as to restoration of breathing and subsequent treatment.)

Hanging.—Remove all constrictions from the neck and chest, and apply artificial respiration as for drowning.

Suffocation.—Remove the patient into fresh air, undo clothing, and employ artificial respiration as in drowning.

In all these cases the horse ambulance must be immediately summoned, and, on arrival, the patient must be placed therein, and conveyed to the nearest hospital for treatment, unless a doctor has in the meantime arrived on the scene and taken charge of the case. Under such circumstances the instructions of the doctor must be observed by the police called to the case.

The senior officer present must use his discretion as to summoning a doctor, but this need only be done when, owing to the distance from the ambulance station, a considerable period will necessarily elapse before the patient can be taken to a hospital.

Under any circumstances, whilst a case of this description is being conveyed in the ambulance to the hospital, the methods of resuscitation herein described must be persevered in until arrival at the hospital.

In all cases of persons found in the streets, either injured or ill and apparently dead, the person must be taken immediately in the horse ambulance or on the hand litter to the nearest hospital, unless a private medical practitioner has previously pronounced the body to be lifeless. Immediately a doctor or Infirmary Surgeon has stated that life is extinct the body must be taken to the nearest mortuary.

APPENDIX VIII.

NOTE ON AMBULANCES AT BOSTON, MONTREAL, AND NEW YORK—(See Report, page 1).

The Ambulance System at each of the above-mentioned places is established and maintained by the Hospitals. Boston appears to be the only place in the United States where Police Ambulances, as well as Hospital Ambulances, are in use. In Montreal and New York the Police have Patrol Wagons, which are used for general Police purposes and occasionally for the conveyance of injured persons to the Hospitals. But this is not their primary use. Nor are they specially constructed or adapted for this purpose. In Montreal and New York the duties of the Police in dealing with street accidents consist mainly in summoning the ambulance by telephone, and properly protecting the injured person till the Ambulance arrives. The number, character and equipment of the ambulances is entirely a matter of Hospital management and control.

BOSTON.

I was able to obtain a full account of the ambulance arrangements at Boston from Dr. George H. N. Rowe, the Superintendent of the Boston City Hospital, and from some of the Chief Officers of the Boston Police. The Boston City Hospital is a Municipal Institution. It was established and is maintained out of City funds. There have been large benefactions both as regards buildings and endowments by the munificence of private persons, but with these exceptions the whole cost is borne by the City of Boston. The Report of the Trustees of the Boston City Hospital for the year 1905-6 shows that the expenditure upon the "Hospital proper" and its branches for that year was 486,776.88 dols., and the "City Appropriation" 484,782.38 dols., the balance being provided from interest on invested funds and a small gift (3 dols.) from a patient. A full and most interesting account of the history and present working of the Hospital in all its branches is contained in a volume published in 1906, a copy of which was kindly given me by Dr. Rowe. Amongst other information, an account of the establishment and organisation of the Ambulance Station attached to the Hospital is contained in the first article, contributed by Dr. Rowe himself (pp. 24-28). He states that in 1892 "the increase in the number of beds to 520, the complication of two wards for infectious diseases, the establishment of the Convalescent Home, together with the increase in the population of Boston, its industries and its more crowded streets, found the Hospital without sufficient ambulance services. There were only two ambulances stationed in an old tumble-down building

in the rear of the grounds on Albany Street, which had previously been used as a small-pox Hospital. The total inadequacy of the ambulance system to cope with the needs of that part of the Hospital work was obvious." He then proceeds to give an account of the action of the Trustees, who "received an appropriation for the purpose." A new building was erected "two storeys high, 102 ft. long by 60 ft. wide. On the first floor there is an Ambulance room 52 ft. long by 38 ft. wide, with space for 10 ambulances." Behind this are stalls for 11 horses. The stalls are arranged "like those of the Fire Department, so that the horses can step quickly to their places in the ambulances." There is ample accommodation on this floor for office purposes, carriage and harness room, and for washing carriages. On the upper floor there is a hay loft grain room, and storage rooms, and sleeping accommodation for the drivers and attendants on night duty. The whole of the arrangements which were shown to me are most complete. Great pains have been taken to provide the best possible type of ambulance, harness, and general fittings. An ample staff is employed. The Ambulance Service now has 11 ambulances and for other vehicles 10 horses and eight drivers. At least two ambulances are kept ready, the horses harnessed. Such has been the improvement of the service in size, efficiency, and despatch, that it has probably become the largest connected with any General Hospital in the United States, and is believed to have no superior.

Dr. Rowe was good enough to give me some practical illustrations of the working of the system. Sitting at his table in his own room at the Hospital he touched a signal to the Ambulance Station, and within two minutes an ambulance was at the principal door of the Hospital. Another signal touched at the same time brought to the same door of the Hospital a surgeon and an attendant, who were already waiting the arrival of the ambulance. In all doubtful or emergency cases, but not in cases in which the circumstances are definitely known, and there appears to be no need for medical aid during transit, the ambulance is accompanied by a Junior Surgeon, "usually one of the house staff who has had an experience of not less than one and a half years in the Hospital, generally in the Surgical services" (*The National Hospital Record*, March, 1905, p. 29, Article by Dr. Rowe, published by Sutton, Detroit, Michigan.) The ambulance is supplied with all implements, splints, bandages, antidotes,

lotions, etc., which are likely to be required for accidents of all kinds. The Surgeon takes his seat beside the driver and the Attendant inside, and the ambulance starts without any delay to the spot from which the summons has come. The summons comes direct to the Hospital. Any summons, unless in a very exceptional case where there is reason to suppose that it is not a genuine one, is attended to at once without further inquiry, and the system seems to be so well understood that there appears to be not much ground for complaint in respect of unnecessary summonses.

The principal use of the hospital ambulances is the removal of medical and surgical cases from the home of the patient to the Hospital. The principal use of the police ambulance is dealing with "emergency" cases, especially cases of accident or sudden illness occurring in the streets or elsewhere. There is, however, no hard and fast line between the two classes of cases. Although the Hospital is, as has been stated, a Municipal Institution, and the Police, though maintained by City Funds, are in analogy with our Metropolitan Police, under the exclusive control of the State, there appears to be perfect harmony in the working of the two Authorities. The Hospital Ambulance, if summoned, as it constantly is, for the purpose, will deal with emergency cases. On the other hand the emergency cases with which the Police deal are not confined to cases occurring in the streets. Though the Police have no right of entry into factories, workshops or private houses, their ambulances are made use of for the removal of accident cases occurring on private premises, and they frequently summon the Hospital Ambulance for street cases.

In the article in the *National Hospital Record*, above referred to, Dr. Rowe deals with the general question of ambulances under the title, "How Boston Does its Ambulance Work." The main City Hospital has six ambulances, one automobile, two on runners, one wagonette for convalescents. The South Department, a branch of the Hospital, uses three ambulances (for infectious cases) the Relief Station, another branch, has two. The Massachusetts General Hospital (not Municipal) has two ambulances, one automobile. The Homœopathic Hospital has one ambulance. The Health Department has three two-horse ambulances (for small-pox patients only). The Institutions' Registration Department has one ambulance (for paupers). The Public Buildings Department one, the Emergency Hospital three, and there is also one private ambulance attached. The Police Department has 10. All told, there are for service within the City of Boston 38 ambulances or conveyances in the nature of ambulances. Each hospital serves the district in its immediate neighbourhood, but if for any reason an ambulance cannot be provided by the hospital first applied to, the call is passed on to some other hospital, and is at once responded to.

Some of the above-mentioned institutions have no appropriation from Municipal Funds. The main work, so far as street accidents are concerned, is done by the police ambulances and those of the City Hospital, but there appears to be no difficulty in obtaining the assistance of the ambulances of other Hospitals when necessary.

Dr. Rowe, in the article above referred to, gives an estimate of the cost of providing and maintaining an ambulance. He says:—

"The yearly cost of maintaining one ambulance is not easily determined. The number of ambulance horses and drivers is not always the same, and the ambulance service is not kept separate from the general stable service, which supplies also in addition a surgeon's coupé, a wagonette, two market wagons, and Superintendent's gig, but it may be approximately given as follows:—

	Dols.
Cost of one Ambulance	600·00
Cost of one Horse	225·00
Cost of one Harness	75·00
Cost of Blankets, Robes, and Miscellaneous Outfit	50·00
Total first outlay for one Ambulance	950·00
The keeping of one and one-half Horses for each Ambulance is about	300·00
Ambulance Driver, Wages and Living	680·000
Annual and Exigency Repairs	175·00
Total cost of maintaining the Ambulance unit	1,155·00

"This does not include the heating and lighting of the Ambulance Station, general repairs to buildings, uniforms, or other incidental expenses for the station as a whole, the aggregate of which must be divided amongst different stable units."

A careful record is kept of the work done by the ambulances. Dr. Rowe gives the summary of the work done by the Ambulance Service of the Boston City Hospital from February 1, 1903, to January 31, 1904, as follows:—

"The Report for the Boston City Hospital for the year, February 1, 1903, to January 31, 1904, shows the following statistics of its Ambulance Service:—

Number of patients brought to the Main Hospital	2,650
Number of patients brought to the South Department	2,019
Number of patients brought to the Relief Station	1,644
Number of patients taken to the Convalescent Home	334
Patients carried out from the Main Hospital... ..	120
Total patients carried	6,767

"Of the above number, 664 were patients transferred from the Relief Station to the Main Hospital.

"The number of miles run, as shown by the odometers, was as follows:—

Main Hospital	14,031
South Department	12,682
Relief Station	4,082
Convalescent Home	795
Total miles run during the year	31,590

"The daily 'runs' vary from 40 to 114 miles, the odometer record showing as many as 114 miles as a maximum day.

With regard to the work done by the Boston City Police Ambulances, Dr. Rowe gives the following figures for the same year:—

"The Police Department ambulances do a large amount of miscellaneous work. Last year their ambulances responded to the following calls to convey sick or injured persons to the following places:—

Boston City Hospital Relief Station	866
Boston City Hospital (proper)	601
Massachusetts General Hospital	178
Carney Hospital	18
Faulkner Hospital	18
To Homes	82
To the Morgues	18
Miscellaneous	57
Calls, but services not required	83
Total	1,921

"The Police general orders are that 'injured persons not under arrest will be taken to the City, or Massachusetts General Hospital, or relief station, unless immediate medical attention is necessary.' The Police always notify friends of an injured or sick person."

There are in Boston 15 Police Stations, at each of which a Patrol Wagon is kept for general Police purposes. I was informed that there are now nine ambulances (all are horse vehicles). At the principal Police Station which I visited there were six ambulances kept in readiness for use. The arrangements were nearly similar to those above described at the City Hospital. The horses are kept in stalls close to the room in which the ambulances are kept, but none were kept harnessed. On the receipt of a call the horse which was next in turn was immediately loosed, the front of his stall opened, and he was trained to gallop to his place between the shafts; the harness, which was suspended above the shafts, was at once lowered, and, within a very few seconds after the receipt of the summons, the ambulance started for the place of the accident. The whole process was very kindly explained to me by the Chief Officer of the Police and the Superintendent in charge of the Station. The main features of the system seem to be as follows:—

All the Officers of Police in Boston receive first-aid training as part of their necessary instruction. On the happening of an accident or case of illness in the streets

they must necessarily exercise some discretion as to whether it is a case for summoning the ambulance or not, but in any case of apparent gravity the natural and proper course to be taken is to summon the ambulance. The Police Orders contain general directions as to First-Aid to the injured, and give general directions as to mode of dealing with hæmorrhage, wounds, fractures, burns, frost-bite, and First-Aid to the unconscious, comprising cases of drowning, hanging, gas-poisoning, intoxication, opium poisoning, apoplexy and fractured skull, epilepsy and sunstroke.

As has already been stated, the Police Officer who sees or is informed of an accident or case of sudden illness in the streets must necessarily, to some extent, use his own discretion as to the immediate action to be taken. There are, of course, cases in which the patient can take care of himself and avail himself of some mode of conveyance other than the ambulance. But in any case of apparent or possible gravity, the constable's proper and regular course is to proceed to the nearest Police Box and to take steps for summoning the ambulance. These Police Boxes are very numerous, and there is sure to be one within easy reach. The Constable opens the box with his key and telephones to Police headquarters; the ambulance is at once ordered to the Police Box from which the summons has come. The perfection of the telephone service seems to provide for all contingencies. If the ambulances of the station of the district where the ambulance is required are all in use, recourse can at once be made to other police stations or to the hospitals, so that an ambulance is sure to be at the spot with very little delay.

I inquired how the apparently inconsistent duties of the constable could be reconciled: (1) that of looking after and protecting the sufferer until the arrival of the ambulance; and (2) leaving the patient to go to the Police Box. I gathered that but little practical difficulty arose in this account. Either another constable would come up, or the patient might safely be left to the care of some bystander. I imagine that the summoning of the ambulance is so generally recognised as the proper and, indeed, the only course to be taken, that the difficulty which would occur to anyone whose experience is drawn from the streets of London does not present itself to the Boston Police. There is, indeed, little choice of vehicles in Boston or New York. The public travel almost entirely by tramcar or railway—there are comparatively few "cabs" available, and those at very high rates—and unless someone volunteers to take the patient in some private conveyance there is no alternative to the ambulance. The Police Ambulance is not accompanied by a Surgeon or medical man, but only by one officer who has, as has been stated above, received a training in First-Aid.

On the whole, so far as I was able to ascertain from the inquiries made both at the Hospital and the Police, the ambulance system in Boston, as regards cases of accident or illness occurring in public places or in the streets, was thoroughly efficient and satisfactory.

It will be observed that the Police have no motor ambulances, and I found that the principal Authorities both at Boston and New York considered the horse ambulance preferable to the automobile.

MONTREAL.

At Montreal I had only time to make inquiry of the Police as to the method of dealing with street accidents. It appears that, so far as the Police are concerned, there is no regular system adopted for this purpose. The Police do not receive any first-aid training, and have no ambulances of any kind. Sometimes patrol wagons are used for the purpose of conveying injured persons to the Hospital. There are, however, I was informed, ambulance kept at the various Hospitals, and these are available, and can be summoned when required by the Police. The Victoria Hospital was spoken of as being specially efficient in this respect.

NEW YORK.

The system prevailing at New York was explained to me by the Commissioner and the Chief Surgeon of Police and by Dr. S. T. Armstrong, the General Medical Superintendent of all the Hospitals maintained by the City of New York. These hospitals are known at the Bellevue and Allied Hospitals. I was supplied with a copy of the Report of these Hospitals for 1905.

I was also given a plan of the Hospitals existing in the Manhattan Island, New York, and the adjoining district,

Bronx, showing the situations of the various Hospitals, the number of ambulances and of calls for their services at each Hospital, and the district or area served by each Hospital.

The Bellevue or City Hospital is in connection with the Gouverneur and Haarlem Hospitals in Manhattan, the Fudham Hospital in Bronx. These are the Hospitals established and maintained by the City. The Bellevue and its Allied Hospitals maintain 15 ambulances, and responded in 1906 to 15,700 calls; while the 10 other Hospitals provide 26 ambulances, and during the same period dealt with 26,700 calls. The latter class of Hospitals are not supported out of City funds but depend on voluntary contributions or endowments.

The Bellevue City Hospital possesses the greatest number of ambulances and deals with the greatest number of calls. A peculiarity of the New York system is that special districts are assigned to each Hospital for ambulance work by the Commissioner of Police. The Commissioner of Police is the authority to decide whether a Hospital is of sufficient standing and possesses a sufficient equipment to justify him in assigning to it a district, and he also has to decide on the extent and boundaries of the districts, which he has power to vary. I was informed that the exercise of this duty by the Commissioner of Police occasionally gave rise to some friction, but on the whole the relations of the Police and the Hospital Authorities appear, so far as I was able to learn, to be fairly satisfactory.

The duty of the Police Constable who deals with the injured person is to report the accident at once by telephone to Headquarters. Any available telephone is used for this purpose. A telephone message is at once sent from Headquarters for the ambulance to the Hospital in whose district the patient is lying. If it is found that there is no available ambulance at that Hospital, another Hospital is communicated with. The Police are encouraged to attend lectures on First-Aid, and in fact many do so, but it is not compulsory. It is the duty of the constable to render what assistance he can, and he has some discretion as to whether or not it is a case for an ambulance or whether the patient might in some other way be conveyed to the Hospital. But the regular and proper course for the constable to take is to communicate the matter at once to the Police Headquarters, with a view to having an ambulance summoned. I was shown the Ambulance Station at Bellevue Hospital. There are, as already stated, six ambulances kept at the Station. The system of signalling and summoning the ambulance is similar to that at Boston. There is accommodation for 18 horses and five drivers. The other arrangements are also similar to those at Boston. The practice is to keep two ambulances in readiness to start at a moment's notice. A young Surgeon from the Hospital accompanies the ambulance, and it usually starts on its journey within two minutes from the summons. As at Boston it is fitted with all usual appliances. It should be observed that although the proper sphere of Police action is the streets and public places only, their services are often called in by private persons in the case of accidents and other emergencies in private premises. It seems to be quite common for a call for an ambulance for the removal of a sick person to the Hospital to be sent through the Police.

It may be taken that the system at Boston and New York is fully typical of that prevailing in the other large cities of the United States (see Dr. Rowe's article, *National Hospital Record*, page 32).

For the purposes of the present inquiry, the following appear to be the main features of the system:—

1. It depends for its efficiency mainly on Hospital equipment and organisation. Except in Boston, the ambulance service appears to be entirely under the control and management of the Hospitals, whether they are Municipal or Private Institutions. The question as a whole appears, therefore, to be inseparably connected with that of Hospital Organisation.

2. No hard and fast line can be drawn between cases of street accidents or illness and those occurring in the private premises; the necessity for adequate provision in the case of the latter class of removals is at least as great as in that of cases occurring in public places.

3. The satisfactory working depends upon a thoroughly efficient system of telephonic communication.

KENELM E. DIGBY.

October, 1907.

APPENDIX IX.

NOTES ON THE AMBULANCE SERVICES OF PARIS, BERLIN AND BOSTON (U.S.A.).

Prepared and handed in by Mr. Henry Morris, President of the Royal College of Surgeons of England.
(See Question 3165.)

PARIS.

Information obtained by personal enquiry and observation made on the spot during a recent visit to Paris for the purpose.

The Ambulance Service in Paris has been placed by the Municipal Council under the Préfecture de la Seine. The service includes (1) *ambulances municipales*, and (2) *ambulances urbaines*. The use of the carriage is free of charge for persons living in Paris who do not pay a rent of more than £20 a year. There is a scale of charges for others, which is shown on the application forms.

There is at the present time no separation between the ambulance arrangements for the transport of persons afflicted with diseases, infectious and non-infectious, from the ambulance provision for street accidents and cases of sudden illnesses in the streets, except that the *ambulances urbaines* are not used for the transport of infectious cases.

It is such a general custom in Paris to convey a person who has met with an accident, or who has been taken suddenly ill in the street, to the nearest chemist's shop, and for First Aid to be rendered there, and then, according to what is considered to be the trivial or severe character of the condition, to send the person on his way, or to recommend him to drive to his own residence or to a hospital, or, thirdly, to telephone or otherwise send for an ambulance to transport the injured or invalided person to his own residence or to a hospital, that only a comparatively few instances of street accidents or illness come within the purview of the Paris police reports.

On this account, when the *ambulances urbaines*—which were from the outset horse ambulances—were instituted, on the initiative of Dr. Nachtel in 1887, with a service station

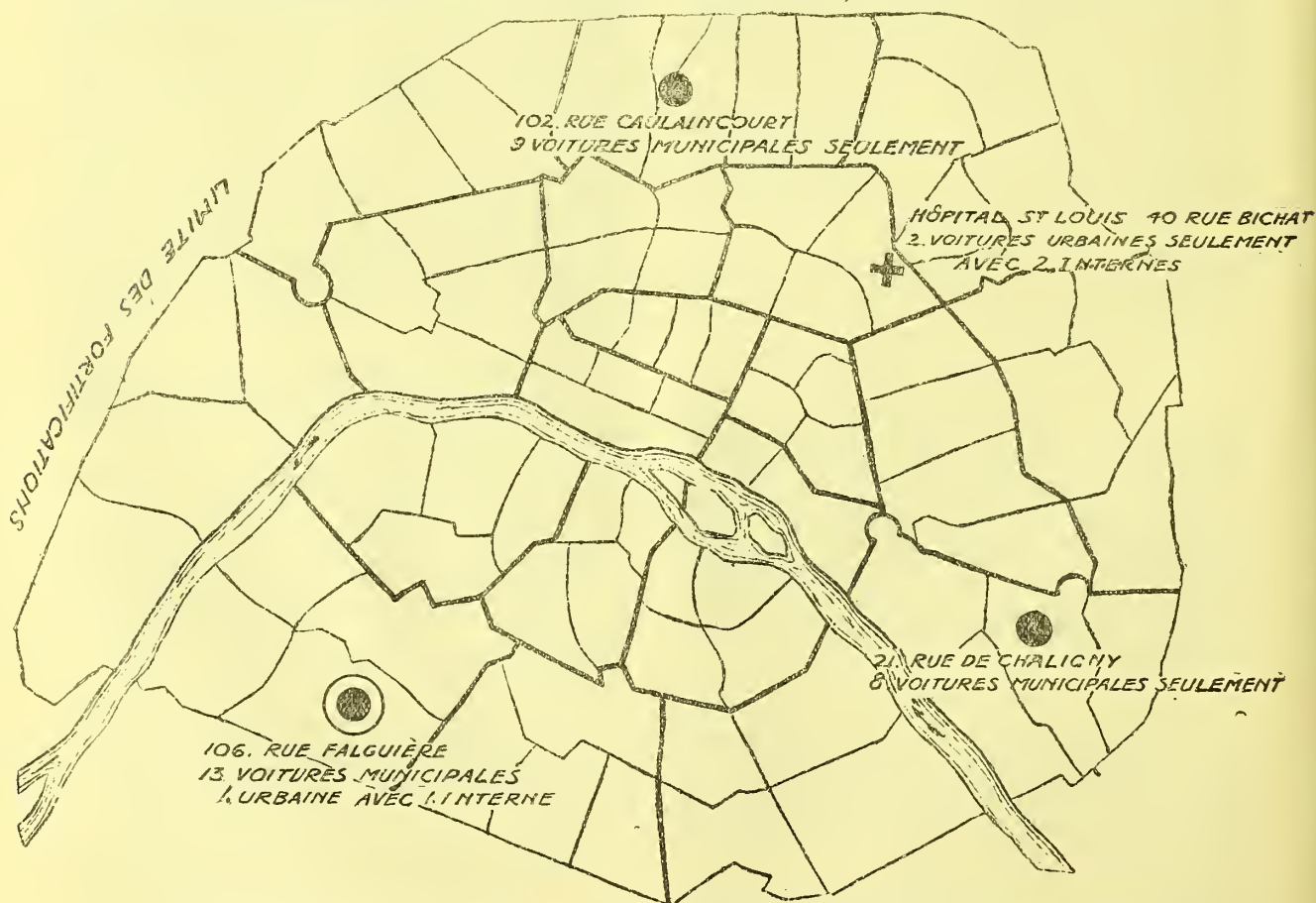
at the Hospital of St. Louis in the Rue Bichat, a number of chemists' shops, as well as some of the police stations of various *arrondissements*, were connected by private telephone with the central office at St. Louis Hospital. There were thus 35 points of direct communication established with chemists' shops and police stations.

THE NUMBER OF AMBULANCES IN THE PRESENT SERVICE IN PARIS.

In 1895 the service of the *ambulances urbaines* was taken over by the Municipality, and there now exist three *urbaines* and 30 municipal ambulances. These are distributed thus:—

- (1) Nine municipal ambulance carriages at a station No. 102, Rue Caulaincourt, in the northern district.
- (2) Eight municipal ambulance carriages at a station at Rue de Chaligny, in the eastern district.
- (3) Thirteen municipal ambulance carriages, and one *urbaine* ambulance carriage, for day use only, at a station No. 106, Rue Falguière, on the left side of the Seine; and
- (4) Two *ambulances urbaines* at the Hôpital Saint Louis, for day and night use.

The sketch map shown below indicates the relative positions of these stations.



PARIS AMBULANCE SERVICE. SKETCH MAP SHOWING THE POSITIONS OF THE AMBULANCE STATIONS.

The *ambulances urbaines* were raised by private subscriptions in 1887; but as funds did not allow of their being kept going, and as in 1889 the town of Paris established two stations for the service of the *ambulances municipales*, these *ambulances urbaines* were handed over in 1895 to the Préfecture de la Seine to be under the same control as the municipal carriages, but with this reservation, that they should be used exclusively for accidents and cases of illness of a non-infectious nature. The *ambulances municipales*, on the other hand, were intended more particularly for the transport of patients suffering from diseases both infectious and non-infectious. And at the present time (November, 1907) the same carriages belonging to the municipality are used indiscriminately for all classes of cases, namely, accidents and sudden illness occurring in the streets, and for the conveyance of persons ill with non-infectious or infectious diseases.

THE NUMBER OF AMBULANCE STATIONS IN PARIS.

Although the original scheme after the municipality had taken over the *ambulances urbaines* contemplated the establishment of ten stations, namely, four for the *ambulances urbaines*, four for the *ambulances municipales*, and two for both services, and although four years ago there actually existed six if not seven stations, yet these have been reduced to the present number, four.

These stations are indicated on the chart, and are, as mentioned above, Caulaincourt, Hôpital St. Louis, Chaligny, and Falguière.

SYSTEM OF QUICK SIGNALLING.

These stations are all in communication by telephone with the central bureau, 5, Avenue Victoria, close to the Préfecture de la Seine; but they can be directly communicated with by the mayors, or police, or public without first communicating with the central bureau. Messages are sent also either by persons or by telegram, either to the central office (Dr. Martin's bureau, 5, Avenue Victoria) or to either of the stations. There are special telegraph forms for the use of the mayors.

At the Hôpital St. Louis station, where only *ambulances urbaines* are kept, the original private telephone wires are still existing (though very defective and often out of work, the director told me), but the general telephone system of the City is the one in chief use there also.

Dr. Martin informed me that they have at the central bureau and at the stations other than the Hôpital St. Louis no private telephone system, but that the "calls" come by public telephone and telegraph and that there is an order given to all offices to give priority to calls for ambulances.

THE WAGES OF THE DRIVERS.

Every driver puts in 26 days of work per month. The drivers of the *ambulances urbaines* are of two classes. Those of the first class receive 6 frs. a day. Those of the second class 5·50 frs. a day. They have also all their clothes provided. They have 14 days holidays a year, during which days their pay goes on as usual. Their wages are also paid, just the same, during absence from illness; and besides, the medical attendance they require during illness is also provided for them.

The working hours are so arranged that 12 hours at work are followed by 24 off duty. Thus the men who work to-day do not come on again till to-morrow night.

Four per cent. of the wages are retained for a "pension fund." This deduction is shown in the accompanying Table:—

	Annual pay.	Pay for 15 days.	Retained 4 p.c. for pension fund.	Net pay—15 days.
1st Class Drivers	2160 frs.	90 frs.	3·60 frs.	86·40 frs.
2nd Class Drivers	1980 frs.	80·50 frs.	3·30 frs.	79·20 frs.

The *ambulances municipales* have also a third class of drivers, who are paid as follows:—

Annual pay.	Pay for 15 days.	Deduction for pension fund.	Net pay for 15 days.
1875 frs.	78·12 frs.	3·12 frs.	75 frs.

* This station at Rue Falguière was established four years ago when two other stations, namely one which was at Rue de Stael, and another which used to be at Place du Marché, Rue St. Honoré, were merged into it. It provides the ambulance service for the whole of the left side of the Seine and for the Champs Elysées and some other part of the right side of the river.

ATTENDANTS WITH AMBULANCES.

The *ambulances urbaines* are always accompanied by a medical man—an *Interne* of the hospitals.

There are six *Internes* at the Hôpital St. Louis Station, who, two at a time, are on duty during the day and night, at Falguière there are two *Internes* for the day service of the Single Carriage. Each *Interne* receives 1,800 francs a year—£72 a year. Their meals are also provided for them whilst they are at the station on duty.

CONSTRUCTION OF AMBULANCES.

The carriages of the *ambulances municipales* and *urbaines* divisions are all exactly the same in construction.

They are on wheels which are provided with thick solid india-rubber tyres, and the bodies of the carriages are supported on excellent springs.

Each carriage contains a litter—one litter only—which is moved in and out from the back of the carriage, on small rollers which run in iron grooves, which grooved iron bars are themselves supported on springs. The carriage space is roomy, well lighted by side windows extending nearly the whole length of the side. Two seats, which rise up and let down, are fixed in the carriage so as to accommodate a nurse and a relative. A carrying chair (an ordinary cane-seated chair) is also provided.

The carriage is constructed of wood and iron, the wood is not painted but is stained and varnished.

There is a red cross flag fixed at the left front angle of the carriage roof, and a bell or gong is connected by a spring with a metal plate which the coachman sounds by pressing his foot upon the metal plate. By this means the approach of the ambulance is signalled as it passes along the streets and the road is specially cleared for its transit as soon as flag is seen or gong is sounded.

The carriages have the right to pass every other vehicle, and to go everywhere; and they have no difficulty in going into, or getting out of the narrowest streets in Paris.

The method of DISINFECTING THE CARRIAGES is by means of a spray of 1 in 1,000 of perchloride of mercury.

APPLIANCES.

The Nurse or *Ambulancière de Service* of the *ambulances municipales* carries with her a leathern case containing a small metal case in which are scissors, clamp pressure forceps, a small tongue retractor, and a small packet of dressings and a bandage.

She has also with her in the ambulance carriage a long sac, like a bolster, in which are various light wire splints; and a box of bottles containing lotions, restoratives, &c.

The *Internes-Ambulanciers de Service* also go fully equipped with splints, dressings, and other materials in the *ambulances urbaines*.

THE COMPARATIVE INFREQUENCY OF THE USE OF THE PARIS AMBULANCES FOR STREET ACCIDENTS.

I took out at one of the Ambulance Stations over seven consecutive days the number of accident cases a day to which carriages were sent and the average was 8 (7·7) cases. On four of these days I noted the proportion of accident to other cases and it was 9 out of 36; 7 out of 43; 4 out of 47; and 7 out of 54.

Not a few persons destitute and prostrate from abject misery and starvation are picked up in the streets and conveyed in the ambulances to hospitals and refuges. Owing to the frequency with which women on the verge of parturition are conveyed to hospitals or to the houses of *sages-femmes*, a good number of confinements occur actually whilst the women are in transit within the ambulance carriages.

PARTICULARS AS TO THE NUMBER OF TIMES THE MUNICIPAL AND URBAIN AMBULANCES WERE USED AT THE LARGEST OF THE AMBULANCE STATIONS (106, Rue Falguière.)*

At this station, which is the only "mixed" Ambulance Station in Paris, there are kept 13 municipal carriages, 1 *urbaine* carriage, 14 drivers, 14 horses, 2 *Internes* and 9 *ambulancières*. Only 12 carriages were actually in work. The number of times the municipal and *urbaine* carriages went out on each of five consecutive days were, respectively, as follows:—

Municipal carriages	23	41	33	39	42
Urbaine carriages	1	3	2	4	—

On November 18th, 1907—the day I visited the station—up to 4 P.M. :

The Municipal carriages had done 27 journeys.
The *Urbaine* carriage 2 „

The maximum number of transports in a single day during 1907 was on January 4th, when 71 cases were moved. There were other days in January and February nearly or quite as busy. The total of persons conveyed in each month of 1907 was as follows:—

January	1,430	July	1,226
February	1,588	August	1,062
March	1,413	September	942
April	1,484	October	1,038
May	1,352	November up to	
June	1,200	the 17th day ..	578

This may be put down as an average of 1,262 a month, and in round figures 15,000 to 15,200 a year.

At Caulaincourt Station, where there are nine Municipal Ambulance Carriages and 12 horses. I looked through the register of several days and found the number of cases conveyed varied from 39 to 47 a day, an average of about 14,500 a year. Very few of them were accident cases, only about eight per day.

PARTICULARS OF THE NUMBER AND USE OF AMBULANCES AT 21, Rue de Chaligny.

At 21, Rue de Chaligny there are 8 municipal carriages on actual daily service and 2 in reserve; 12 horses, 12 drivers, and 9 *ambulancières*.

The average daily number of patients transported is from 35 to 40, of which 4 is the daily average of accidents and 3 of accouchments. During the last five days of 1907 and the first five days of 1908 the total number was 353, or a daily average of 35.3. The lowest number was 18, the highest 52, in one day.

The number of patients transported for each month of 1907 were as follows:—

January	1,444	July	1,274
February	1,507	August	1,151
March	1,445	September	1,057
April	1,369	October	1,071
May	1,397	November	1,117
June	1,116	December ..	1,179

This equals a total of 15,127 runs a year, and averages 1,261 runs a month.

Some of the runs outside the fortifications amount to 40 or 45 kilometres, and the Superintendent said that 14 such runs a day would be the outside number he could accomplish with the existing staff, horses and stables. For these transports they need automobiles, and for this purpose the General Council have just voted 30,000 francs for two automobiles. The work of the Paris ambulance service is considerably on the increase, and is at present almost more than it can do.

HORSING.

The horses which draw the ambulances are kept in stables close to the carriage sheds and houses, at the ambulance stations. They are jobbed horses. The City of Paris does not own the horses which are used either for the ambulance service or the fire brigade service.

ACCOMMODATION FOR THE STAFF.

There is a day room, a waiting-room and kitchen, and every requisite accommodation for washing, &c., provided for the drivers at each of the stations. There is comfortable day accommodation for the *ambulancières*; and at the stations of the *Ambulances Urbaines* for the *Internes-ambulancières* also.

ELECTRIC MOTOR AMBULANCES.

The Municipality is having some electric motor ambulances made, and will start two early next year (1908). The design for the body of the carriage has been passed, but that for the chassis had not, at the time of my visit, been adopted.

THE BUDGET.

I am able to supply the actual Financial Statement contained in the "Ville de Paris Budget of Receipts and Expenditure" for 1907, which shows the cost of each of the several items of the entire service. It is as follows:—

MUNICIPAL AND CITY AMBULANCES.

(Expense partly covered by the receipts entered below.)*

See note at foot of Table.

A.—STAFF.

	Frs.	Frs.	Frs.
1 Controller	3,400		
2 Heads of Stations at 2,600 frs. ...	5,200		
1 Head of Station	2,400		
1 Telephone Operator acting as Head of Station	2,400		
4 Telephone Operators at 1,800 frs. ...	7,200		
8 House Surgeons at 1,800 frs. ...	14,400		
8 Female Ambulance Attendants of 1st Class at 1,900 frs.	15,200		
8 Female Ambulance Attendants of 2nd Class at 1,730 frs.	13,840		
10 Female Ambulance Attendants of 3rd Class at 1,570 frs.	15,700		
10 Drivers, 1st Class, at 2,160 frs....	21,600		
15 Drivers, 2nd Class, at 1,980 frs....	29,700		
14 Drivers, 3rd Class, at 1,875 frs....	26,250		
	—	157,290	
Indemnity to Stewards (two House Surgeons)	200		
Cost of heating and lodging for the Manager	800		
Substitutes in case of sickness and absence	4,310		
	—	5,310	
Management expenses		1,000	
		—	163,600

B.—WORKING EXPENSES.

Upkeep of buildings	8,000
Stabling and Insurance	125,017
Repair and upkeep of carriages	18,500
„ „ rubbered wheels	11,500
„ „ stock at stations	8,000
„ „ linen and washing	1,000
„ „ station cloakrooms	1,000
Heating and lighting of buildings and carriages	3,000
Installation and upkeep of telephone	2,000
Printing and office expenses	800
Cost of removal, correspondence, various and unforeseen expenses	400
	—
	179,217
Veterinary expenses	800
	—
TOTAL	343,617 ⁵ / ₈

* Portion contributed by those interested in the expenses of transport by the Municipal or Urban Ambulances:—

	Frs.
1. Contribution from the Department of the Seine for expenses of transporting the patients of the suburb	50,000
2. Receipts referring to transport of patients living in Paris or other Departments	7,000
	—
TOTAL	57,000

⌘ § Plus 15,000 frs. of supplementary credits paid during the course of the year for expenses of material by reason of the greater number of transportations effected.

BERLIN.

Information obtained through a resident in Berlin from Professor George Meyer, the chief medical officer in charge of the hygienic arrangements for the Ambulance Service, to whom I am much indebted.

The Ambulance Department is the most important section of the Berlin Society for First Aid.

Until quite recently several private societies were grouped under the name of "Society for First Aid," and they had an ambulance in common, the medical director being Dr. George Meyer.

This combination is now dissolved, and since April 1st last the municipality of Berlin has taken over the organisations and equipments of the "Society for Rescue," and has maintained some and dropped others of them. Amongst the things maintained by the Municipal Administration are:—

- (1) The main ambulance stations which are at nearly all large hospitals in Greater Berlin, and at which medical aid of every description can be obtained at all hours during the day and night. No ambulance carriages are kept at these 17 stations.
- (2) A central station for information as to the number of beds vacant every day in the various hospitals of the city.

By telephoning to this station it can at once be ascertained what hospital the patient may be sent to. This obviates all necessity for driving the patient about from one hospital to another until at length shelter is found for him or her.

At the present time the Ambulance Department has 3 depots with 20 standard ambulance wagons; 3 salon wagons; 2 salon wagons for children; 1 motor car; and 26 horses—the whole being always ready.

Appended is a diagram indicating the positions of the Ambulance depots and stations:—

The staff of the Ambulance Service consists of 3 inspectors who manage the technical arrangements; 35 coachmen and assistants; 2 motor car drivers; 6 disinfectors; and 5 clerks. The general control is under a special board of directors.

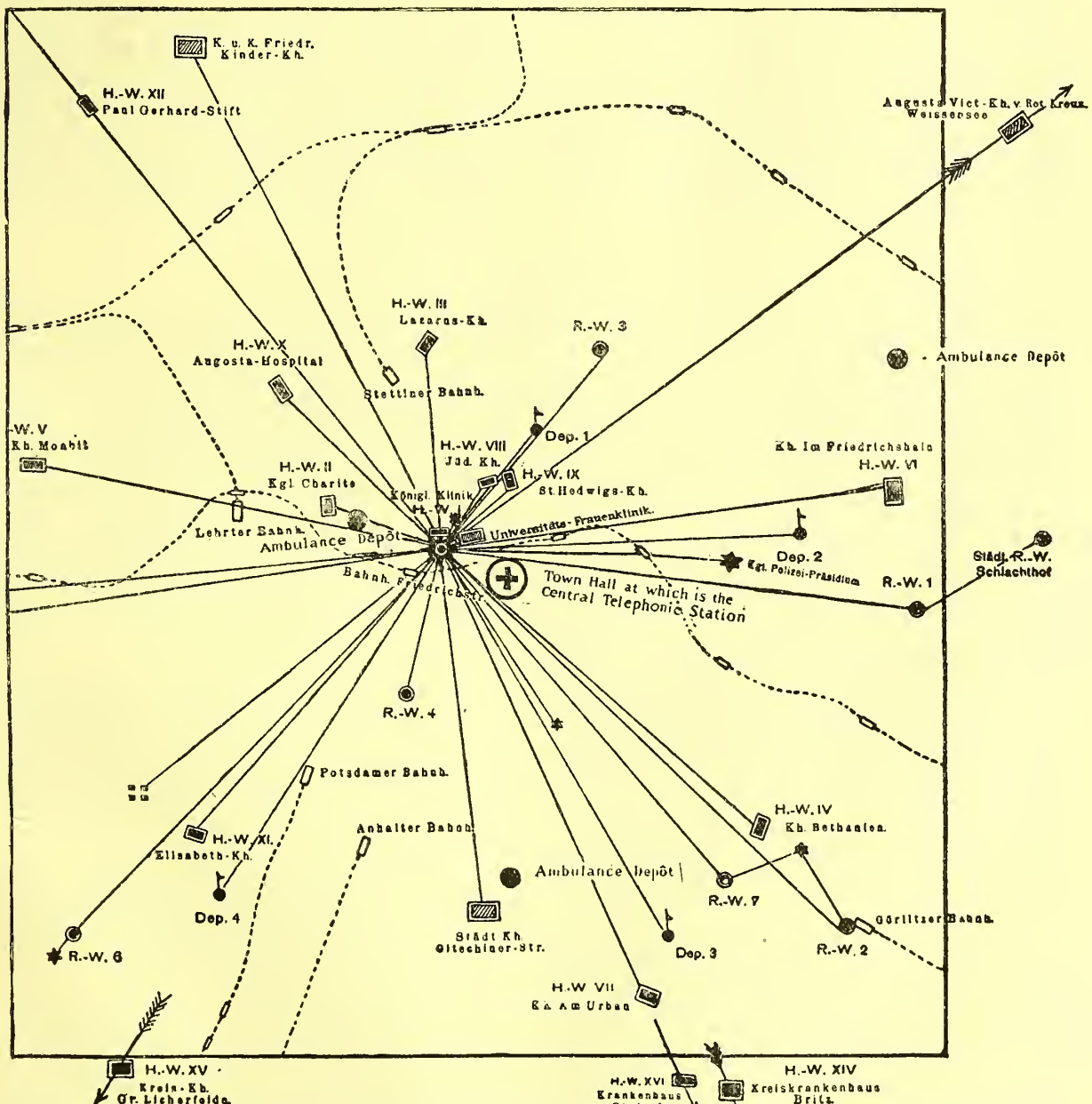
The hygienic arrangements are in the hands of three physicians, of whom Prof. George Meyer is chief.

At each of the three depots or stations there are from 6 to 8 wagons, and 6 to 12 horses, and 11 to 12 drivers. There is also a motor car at one of these stations.

The horses belong to the Ambulance Department.

There is direct, *i.e.* private, telephonic communication from the main depot on the Schiffbauerdamm with the two other depots with the Chief Police Office, and with the various municipal hospitals in order to facilitate enquiries for vacant beds.

Each depot has its own disinfecting apparatus, bath rooms and offices, the inspector's private apartment and stables and mews.



BERLIN AMBULANCE SERVICE.—DIAGRAM INDICATING THE POSITIONS OF THE AMBULANCE DEPOTS AND STATIONS.

The wagons, stretchers, &c., are disinfected every time after use. The time required for the process is 20 minutes. The linen, towels, and the clothing of the assistants are disinfected each time in the boiler or sterilising apparatus. The assistants have to take a shower bath. There are special premises for disinfecting the carriages, &c., and disinfecting rooms and heating rooms, and steam apparatus and boiler for purifying and washing the linen. These disinfecting arrangements are very thorough and completely up to date; and necessarily so, because the ambulance wagons for street accidents and non-infectious cases are the same as those used for infectious cases. After a wagon has been used for either of six diseases—of which small pox, leprosy and typhoid fever are three—it is sent out to the Virchow Hospital where it undergoes a special treatment of disinfecting.

The ambulance wagons are so constructed that the corners of the interior are smooth and rounded; the frames of the windows in the sides of the wagons are chamfered where the panes are set in and the windows are stationary. The whole interior of the carriage is coated with white enamel. Ventilation is obtained by removable windows in the front wall of the wagon. The stretchers are of iron covered with sailcloth, and are also made as smooth as possible.

A male attendant always goes with the ambulance wagon, either inside, or, when a relative is with the patient, on the box seat.

The number of journeys made in 1906 by the ambulance wagons, which were then under the "Berlin Society of Rescue," was 11,400.

The finances are provided by voluntary contributions and the fees paid by persons who use the ambulances and are in a position to pay. The poor pay nothing.

A great feature of the Berlin system of First Aid consists in a large number of stations distributed all over the city, in addition to the main stations situated in nearly all the hospitals of Greater Berlin. These last named formerly belonged to "The Berlin Society for Rescue," which was a private charitable undertaking, but have been now taken over by the Berlin municipality.

Apart from the Rescue Society's stations there are two other societies for First Aid:—

- (a) The Berlin Society for Sanitary Stations, and
- (b) The Berlin Red Cross Society for Accident Stations.

There are 14 sanitary stations and 20 red cross stations scattered over Berlin and its suburbs. The stations are situated in ordinary rented rooms on the ground floor, having an entrance from the street, and are distinguished in daylight by a plate with a red cross, and at night by a transparent glass lantern bearing the same sign. Some of these stations are used in common by the different societies. There is always a medical man and an assistant (and in some stations a nurse) in attendance at each station; and each station is also well equipped with all necessary articles for treating the sick and wounded. Each station contains also a waiting room, an operating room, a room for persons in an unconscious state, a room for the doctor on duty, and dwelling rooms for the doctor and assistant.

The stations are open day and night, and give help in the form of First Aid to the rich and poor alike, the poor receiving help free of charge. With the exception of two stations, only First Aid is rendered in cases of accident or sudden illness, but no subsequent treatment is given at them. In urgent cases First Aid is given even outside the station. Persons in an unconscious state, drunkards and maniacs are looked after until they can be properly conveyed to some other suitable place—their home or to a hospital. The stations are connected by telephone with the general telephone exchange, and have in addition a private line to the nearest police station; they undertake the ordering of ambulance wagons and make enquiries at hospitals about vacant beds.

At the 20 stations of the "Berlin Red Cross Society" 56,754 patients were treated during the year 1905. The annual expenses of these 20 stations amounted to M. 300,000. The annual cost of each of the 14 stations of the "Berlin Society for Sanitary Stations" is about M. 5,000 to M. 6,000. The expenses are met by fees for First Aid paid by persons treated, others than the poor; by free gifts from districts and private people; by collections in the stations and from house to house; by charity fêtes; by members' fees and by district subsidies.

BOSTON (U.S.A.).

AMBULANCE SERVICE OF THE POLICE DEPARTMENT.

Information furnished by Police Commissioner, Mr. Stephen O'Meara, from the Headquarters Office of the City Police, and obtained for me by Dr. Collins Warren, Professor of Surgery in Harvard University, to whom I am greatly indebted.

The Boston Police Department, with 16 divisions and 1,350 men, covering 37 square miles of territory traversed by 500 miles of streets, besides the harbour, has 10 ambulances and 19 patrol wagons. The patrol wagons are intended primarily for prisoners, but all carry appliances for aiding the sick and injured, and some are fitted completely for service as ambulances when needed. Seven of the ambulances and 15 of the wagons are in constant use day and night, and the remaining ambulances and wagons are held in reserve. All divisions, excepting the Harbour Police, have patrol wagons which are fit and ready for ambulance service, and the ambulances are so placed as to be quickly available in all parts of the city.

In the last police year the ambulances made 2,046 runs, and additionally the wagons carried 1,036 sick, injured or insane persons to station houses, the hospitals or their homes. These runs represent legitimate police work, for except in emergencies the transportation of sick persons from their homes to the hospitals and the reverse is left to the hospital ambulances. In no case is a charge made for the service rendered by a police ambulance or patrol wagon.

The ambulances and the patrol wagons are kept in stables contiguous to the station houses and usually under the same roof. Each has its police drivers, covering the 24 hours of the day, and another policeman accompanies it on all runs.

As the method by which the ambulances and the patrol wagons are operated is dependent upon the police signal service, and as such service is not so common in Europe as in the United States, it is advisable that it be briefly described. In the signal service of the Boston Police Department, besides miscellaneous property and appliances, there are 457 street signal boxes, 62 miles of underground cable, 7½ miles of duct, and 77 miles of overhead cable.

The street boxes are used constantly by the patrolmen on their routes. Each must send to his station house

at regular and frequent intervals "on duty" calls from boxes in all parts of the territory which he is covering; and the calls are registered automatically at the house. He can also, from the boxes, telephone information to his superiors or ask for instructions. Should the officer in charge of a station desire to communicate with a patrolman he can set a signal at all the boxes on the patrolman's route and the patrolman on reaching his next box calls up the station. As all stations are connected with headquarters and with one another through headquarters by means of private police telephone lines, it is possible, in case of a general alarm, for the officer in charge of headquarters to reach every policeman on duty in a few minutes.

When a policeman makes an arrest he takes his prisoner to the nearest box, sends in the signal for the patrol wagon, and on its arrival turns over the prisoner to the wagonman and, except in unusual cases, resumes at once his patrol duty. When he desires an ambulance he sends in a special call. As the wagons and ambulances are always ready, they respond with practically the promptness of fire apparatus.

In the last police year the wagons made 33,645 runs, carrying 33,201 prisoners and 562 lost children to the station houses, besides doing the work already mentioned for the sick and injured and making 688 runs to fires. During the year 625,277 telephone messages, and 2,970,815 "on duty" calls were sent over the lines.

The entire cost of maintaining the signal service, once established, is about £0,000 dollars a year, about one-tenth of which is chargeable to the work of placing overhead cables underground. This does not include the pay of the policemen who drive and accompany the ambulances and the patrol wagons, which is 1,200 dollars a year for each man. The first cost of an ambulance or a patrol wagon, with two horses for each, to be used in turn, is about 1,500 dollars.

The following is a further communication from Chief Commissioner Mr. Stephen O'Meara, of Boston, dated December 13th, 1907 :—

You will have received already the description of the Police Ambulance System prepared by me and forwarded to you by Dr. J. Collins Warren. For such additional detailed information as this letter contains, I have drawn in a measure upon a magazine article written by Dr. Rowe, Superintendent of the Boston City Hospital. It was printed two years ago, but its value at the present time is undiminished. Following as far as practicable the line of specific questions which you ask, I reply as follows :

1. The 10 police ambulances and the 19 police patrol wagons fitted partly or completely for ambulance service are controlled by the Police Commissioner. At the City Hospital, which is a free institution supported by the City of Boston, control is in the hands of the Superintendent under a Board of Trustees appointed by the Mayor. The City Hospital has 15 ambulances, including two on runners for use when snow is on the ground, and one wagonette for convalescents. Of these, seven are at the main buildings, two at a branch known as the Relief Station, and three are assigned especially to the South (or contagious) Department. The Massachusetts General Hospital with three ambulances, the Homœopathic Hospital with one, and the Emergency Hospital with four, are private and independent institutions, though all assist freely in the work of caring for the sick or the injured. In the following cases, ambulances are controlled by

the heads of the respective city departments named : Health Department, three ambulances for smallpox only; Institutions Registration Department and Public Buildings Department, one each.

2. An infectious case would be taken by a police ambulance if the sufferer were found in a public place. Three of the City Hospital ambulances and the three Health Department ambulances are exclusively for infectious cases. I am unable to state as to the ambulances of the other institutions.

3. All are horse vehicles excepting one motor ambulance at the City Hospital and one at the Massachusetts General Hospital, but as I write, I cannot specify the motive power.

4. A police ambulance is always accompanied by a policeman besides the police driver. Ambulances from the hospitals carry an orderly always, besides the driver, and often a physician.

5. The system of stations for single ambulances is not followed except in the Police Department.

Other ambulances are held in groups at central points.

6. Means of communication by telephone, public and private, are not only sufficient, but lavish.

In general, it may be said that police ambulances care for the injured and hospital ambulances for the sick. All ambulances have by law the "right of way" in the streets, in common with fire apparatus and police patrol wagons.

APPENDIX X.

STATISTICS RELATING TO THE METROPOLITAN ASYLUMS BOARD AMBULANCE SERVICE.

Handed in by Mr. T. Duncombe Mann, Clerk to the Board. (See Question 952.)

TABLE A.—NUMBER OF PATIENTS REMOVED BY THE AMBULANCES OF THE BOARD.

	1881-1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	TOTALS.
FEVER AND DIPHTHERIA—														
Removal from Homes to the Board's Hospitals	110,760	22,152	22,795	20,923	24,917	21,430	25,532	24,410	18,191	18,468	23,736	25,893	32,037	391,244
Transfers between Hospitals and Wharves	36,638	9,999	8,951	6,439	7,981	5,433	5,424	4,276	2,608	5,391	10,226	12,638	16,004	132,008
Recovered Patients—Removals and discharges to Homes	39,526*	10,090	9,559	7,114	8,419	6,255	6,394	5,405	3,650	5,578	10,070	9,429	13,115	134,604
Returned home—Mistaken diagnosis	†	†	†	†	†	†	†	33	48	38	51	68	121	359
Miscellaneous	1,962	1,396	938	204	391	221	257	110	44	44	38	25	4	5,634
TOTAL FEVER AND DIPHTHERIA PATIENTS	188,886	43,637	42,243	34,680	41,708	33,339	37,607	34,234	24,541	29,519	44,121	48,053	61,281	663,849
SMALL POX—														
Removals from Homes to Hospitals and Wharves	18,996	265	121	36	28	94	1,848	7,830	422	494	80	33	15	30,262
Transfers between Hospitals and Wharves	5,502	—	—	—	15	—	5	49	2	—	—	—	—	5,573
Recovered Patients—Removals and discharges to Homes	10,566	39	33	1	1	31	118	567	15	30	3	3	—	11,407
Returned home—Mistaken diagnosis	†	†	†	—	†	†	†	310	68	40	27	5	12	462
TOTAL SMALL POX PATIENTS	35,064	304	154	37	44	125	1,971	8,756	507	564	110	41	27	47,704
To other places than the Board's Hospital, &c.	1,876	433	361	326	369	327	388	360	323	442	423	405	454	6,487
NON-INFECTIOUS REMOVALS—														
Private Removals	—	—	—	—	—	—	—	—	—	68	134	424	841	1,467
Imbeciles	—	—	—	—	—	—	96	23	769	531	684	734	807	3,644
Ringworm	—	—	—	—	—	—	180	120	203	92	—	58	28	611
Ophthalmia	—	—	—	—	—	—	—	—	245	433	306	318	452	1,754
Defective and other Children	—	—	—	—	—	—	13	129	90	219	314	271	165	1,201
Staff—Surgical	—	—	—	—	—	—	—	—	—	—	1	2	3	6
TOTAL NON-INFECTIOUS REMOVALS	—	—	—	—	—	—	289	272	1,307	1,273	1,439	1,807	2,296	8,683
GRAND TOTALS	225,826	44,374	42,758	35,043	42,121	33,791	40,255	43,622	26,678	31,798	46,093	50,306	64,058	726,723

† Not recorded.

* Includes some Small Pox cases.

TABLE B.
RETURN OF WORK, JOURNEYS AND MILES RUN, FOR THE YEAR ENDED DECEMBER 31ST, 1907, WITH TOTALS FOR PREVIOUS YEARS.

Particulars of Work.	Number of Journeys.	Miles Run.				By Motor Vehicles.	Total by Vehicles.
		By Vehicles with Horses.					
		One-horse.	Two-horse.	Three-horse.	Four-horse.		
Infectious cases	35,758	327,699	34,734	—	—	58,823	426,623
Non-infectious cases	1,173	9,986	986	—	—	8,844	19,845
Other work—Conveyance of Stores, Staff, Horses in Exchange, &c. } 1907.. ..	1,617	9,520	12,609	—	—	4,119	16,288
Totals for 1907	38,548	347,205	48,329	—	—	71,786	462,756
Totals for 1906	32,614	284,415	85,152	—	—	23,527	388,265
Totals for 1905	28,926	264,282	64,671	175	—	6,050	334,446
Totals for 1904	22,625	216,958	31,902	8	—	1,964	250,352
Totals for 1903	20,374	181,799	24,081½	330	—	—	205,676½
Totals for 1902	35,151	369,571½	19,836½	38	—	—	388,996
Totals for 1901	30,587	290,758	26,580	48	—	—	317,278
Totals for 1900	24,808	203,532	29,224	92	—	—	232,848
Totals for 1899	28,184	222,128	37,855	452	—	—	260,367
Totals for 1898	23,120	182,255	32,421	33	—	—	214,677
Totals for 1897	26,055	231,143	39,417	810	41	—	271,411
Totals for 1896	26,646	249,376	46,792	337	301	—	296,792
Totals for 1895	19,963	189,360	23,004	—	—	—	212,364
Totals for 1894	19,796	176,602	26,918	72	—	—	203,820
Totals for 1893	24,017	214,884	30,186	—	—	—	245,311
Totals for 1892	17,607	147,606	27,497	—	3,535	—	178,638
Totals for 1891	8,254	66,129	12,958	—	791	—	79,873
Totals for 1890	8,644	67,443	14,167	415	2,405	—	84,423
Totals for 1889	5,594	40,957	6,276	232	881	—	48,346
Totals for 1888	5,550	34,842	12,767	—	1,910	—	49,519
Totals for 1887	6,507	51,894	5,223	—	1,009	—	58,126
Totals for 1886	2,073	13,578	1,980	—	—	—	15,558
GRAND TOTALS	455,643	4,046,717½	647,237	3,042	11,342	103,327	4,799,842½

APPENDIX X—(continued).

TABLE C.

EXPENDITURE IN RESPECT OF THE LAND AMBULANCE SERVICE FOR THE YEARS ENDED LADY DAY, 1908 AND 1907
(excluding Loan Charges, Head Office, and Central Expenses)
WITH PARTICULARS OF THE STAFF ON THE ESTABLISHMENT.

LAND AMBULANCE SERVICE	Eastern Station.		North Western Station.		Western Station.		South Western Station.		South Eastern Station.		Brook Station.		Mead Station.*		Summary, all Stations.	
	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.
Year ended Lady Day	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
PERMANENT STAFF (ALL GRADES):—																
Highest number on any one day	36	33	29	27	30	32	38	30	32	26	31	36	28	3	224	187
Lowest number on any one day	29	30	26	26	28	30	17	26	26	7	27	31	3	3	156	153
1. MAINTENANCE OF OFFICERS AND SERVANTS:—																
Salaries and wages	2,434	2,290	1,777	1,706	2,098	1,964	2,011	2,033	2,052	1,190	2,004	2,101	491	255	12,867	11,539
Provisions..	708	701	638	628	131	668	745	735	746	485	752	867	199	23	4,446	4,107
Uniforms and sundries	148	135	166	87	131	71	208	97	114	119	122	137	50	1	939	647
TOTALS	3,290	3,126	2,581	2,421	2,887	2,703	2,964	2,865	2,912	1,794	2,878	3,105	740	279	18,252	16,293
2. BUILDINGS AND ESTABLISHMENT:—																
Works, &c.	90	186	154	119	117	100	66	60	83	126	58	156	123	62	691	809
Furniture and property—																
Furniture, &c., including repairs to vehicles	307	232	259	179	237	168	232	272	344	204	289	298	86	59	1,754	1,322
Bedding and linen	12	20	9	20	18	9	36	26	9	15	13	9	12	—	109	99
Earthenware	2	3	4	4	3	4	5	9	5	5	1	6	1	1	21	32
Hardware	6	4	4	1	4	3	6	5	3	10	2	3	1	—	26	26
Heating, lighting, & cleansing (including water)	277	248	292	204	363	249	786	533	351	202	354	282	367	47	2,790	1,765
TOTALS	694	693	722	527	742	533	1,131	905	795	562	717	664	550	169	5,391	4,053
3. RATES AND INSURANCE	215	213	201	188	292	292	218	196	231	123	256	246	295	255	1,708	1,513
4. HORSE HIRE	864	806	583	609	717	664	400	551	785	394	914	1,124	20	40	4,283	4,188
5. MISCELLANEOUS																
Stationery, account books, and postage	28	44	30	34	25	26	34	46	21	29	32	34	14	—	184	213
Travelling expenses and sundries	22	74	24	12	25	7	62	47	27	9	22	16	20	18	202	183
TOTALS	50	118	54	46	50	33	96	93	48	38	54	50	34	18	386	396
GRAND TOTALS	5,113	4,956	4,141	3,791	4,688	4,225	4,809	4,610	4,771	2,911	4,819	5,189	1,679	761	30,020	26,443
6. RENTS	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	1
7. EXPENDITURE OF A SPECIAL CHARACTER	—	21	—	—	18	—	2,280	2,762	19	17	—	294	3,339	40	5,656	3,134
TOTALS	—	21	—	—	18	—	2,280	2,762	20	18	—	294	3,339	40	5,657	3,135

* Opened January 8th, 1908.

APPENDIX XI.

CITY OF LONDON MOTOR AMBULANCE SERVICE.

I.—COST OF THE FIRST YEAR'S WORKING OF THE SERVICE.

(a) Estimate handed in by the Commissioner of Police, Captain J. W. Nott Bower. (See Question 1049.)

	£	s.	d.
Rent of Station, St. Bartholomew's Hospital	91	0	0
Water, heating and lighting, rates and taxes, repairs, cleaning, &c.	20	0	0
Electric energy, repairs of motor, &c., for 4,000 miles of running	116	0	0
Depreciation on vehicle, generator, &c., 10 per cent.	60	0	0
Insurance and sundries...	17	0	0
Telephone and signalling	400	0	0
Motor license	1	0	0
Drivers (three permanent men at £100, with, say, £40 for temporary assistants)	340	0	0
First Aid attendants (three permanent men at £135, with, say, £40 for temporary assistants)	445	0	0
Furniture, stationery, books and sundries, say	50	0	0
	£1,540	0	0
In addition there is the prime cost of the motor vehicle, including generator	£600	0	0

NOTE.—As respects future years' working, the opening of the second station with two extra ambulances will probably bring the total cost to about £3,000 per annum, and in addition there will be the prime cost of the two extra ambulances, £1,200.

(b) Actual Cost of the First Year's Working.

The Committee have been informed by the Commissioner of Police that the actual cost of the first year's working has been £1,838 2s. 1d.

As regards the difference between this sum and the estimate of £1,540, the wages of drivers and attendants were £213 less than estimated. On the other hand the entire prime cost, £560, of the Motor Ambulance Vehicle, &c., is included, instead of the £60 depreciation estimated, and other properly capital expenditure has also been charged to the year's working.

If, however, one-fifth only of this capital expenditure (a very liberal charge of depreciation) be included, the net cost of the first year's working of the system would be reduced to £1,217 9s. 2d. (or £322 10s. 10d. less than the estimated cost).

II.—LETTER FROM THE COMMISSIONER OF POLICE WITH REGARD TO THE WORKING OF THE MOTOR AMBULANCE AS COMPARED WITH A HORSED AMBULANCE.

26, Old Jewry. E.C.,
26th November, 1908.

DEAR MR. DIXON,

In answer to your letter of yesterday I can add little to my evidence in reply to Question 1098. Further experience has confirmed the opinion there given.

Horse ambulances can turn in narrower space, and this is an advantage in many streets. On the other hand, the extra speed of a motor vehicle compensates for the loss of time caused by backing or going a roundabout way, in cases where it cannot turn.

I am told by the attendants that the jar and jolt in starting and pulling up has not been seriously felt in the City of London Ambulance. I think, therefore, this objection to a motor vehicle may now be disregarded.

As to the third point, that of chance of breakdown, I fear the objection must hold good. During the six months ended October, there have been 17 cases of breakdown with the City of London Ambulance. Of these, 6 cases were such as to keep the ambulance off duty for eight hours or longer, and no doubt as machinery wears we must expect breakdowns to be more frequent and more serious. On the other hand, improvements in design and manufacture seem promised which it is hoped may minimise the evil. There must, however, be always some reserve to draw upon if a motor service is to be fully efficient.

The motor vehicle has the advantage of speed, of requiring less space for standing, &c., and of being cheaper where not worked in conjunction with Police or Fire Brigade.

I think, therefore, the question of relative advantage must depend mainly on local conditions.

Believe me,
Yours very truly,
(Signed) J. W. NOTT BOWER,
Commissioner.

A. L. DIXON, Esq.,
Home Office, S.W.

APPENDIX XII.
STATISTICS OF THE USE OF THE BISCHOFFSHEIM SERVICE OF WHEELED LITTERS.

Litters stationed at		Number of Litters.		Number of cases in which the Litters are known to have been used.					
		1901.	1906.	1901-2.	1902-3.	1903-4.	1904-5.	1905-6.	1906-7.
Hospitals	.. .. .	15	17	880	779	850	802	778	648*
Fire Stations	.. .. .	8	8	245	232	195	191	219	229
Stations in Thoroughfares	.. .. .	24	26	1,237	809	878	620	767	906
Other Stations	.. .. .	6	10	156	190	127	157	153	169
TOTAL	.. .. .	53	61	2,518	2,010	2,050	1,770	1,917	1,952

* Fourteen Litters only ; no information respecting three Litter Stations.

APPENDIX XIII.

SYLLABUS OF LECTURES ON FIRST AID AT THE LONDON COUNTY COUNCIL CLASSES.

Handed in by Mr. G. L. Gomme, Clerk to the London County Council. (See Question 1240.)

NOTE.—*Lecturers are reminded that each lesson is to be made as practical and as elementary as possible, and that a non-technical graphic treatment of the subject is essential.*

Instruction in Anatomy and Physiology should be very elementary, and should occupy but a short period of time.

MEETING I.—BY THE SURGEON.

Lecture, 1 hour.—A short sketch of the structure of the human body, including a brief description of the skeleton and muscles, with a short account of the structure of joints and varieties of wounds and injuries. First Aid dressing of wounds.

Practice, ½-hour.—The triangular bandage—the sizes suitable for adults and juveniles. How it is made, how tied, and how folded. The use of handkerchiefs as bandages and pads.

The members of the class will, under the surgeon's supervision, practise the application of the triangular bandage to (1) The Head, (2) The Arm, as (a) a large arm sling, (b) a small arm sling, and to (c) wounds.

MEETING II.—BY ASSISTANT TEACHER.

Lesson, ½-hour.—Recapitulation of Meeting I. Oral Examination of the pupils.

Practice, 1 hour.—The application of the triangular bandage or handkerchiefs to (1) The Head, (2) The Arm, as (a) a large arm sling, (b) a small arm sling, (3) The Shoulder, (4) The Hip.

MEETING III.—BY THE SURGEON.

Lecture, 1 hour.—Dislocations—description, no necessity for immediate reduction, danger of non-professional persons attempting it. Temporary treatment. Sprains, their treatment. Fractures. Varieties—simple, compound, complicated, comminuted, greenstick, impacted. Signs, symptoms, and treatment. Special dangers if First Aid not rendered. First Aid simple dressings. The application of splints or other restraining apparatus. Illustrations of emergency temporary treatment of the following: Simple fractures—(1) The Collar-bone, (2) The Upper Arm, (3) The Fore Arm, (4) The Lower Jaw (4 tailed bandage), (5) The Ribs, (6) The Thigh, (7) The Patella, (8) The Leg, (9) The Foot, (10) The Elbow.

Practice, ½-hour.—The members of the class will, under the Surgeon's supervision, practise the application of handkerchiefs or the triangular bandage to, and emergency temporary splints in the treatment of, fracture of (1) The Collar-bone, (2) The Upper Arm, (3) The Fore Arm, (4) The Lower Jaw, (5) The Ribs, (6) The Thigh, (7) The Patella, (8) The Leg, (9) The Foot.

MEETING IV.—BY ASSISTANT TEACHER.

Lesson, ½-hour.—Recapitulation of Meeting III. Oral examination of the pupils.

Practice, 1 hour.—The members of the Class will render First Aid to the following supposed fractures—(1) The Collar-bone, (2) The Upper Arm, (3) The Fore Arm, (4) The Lower Jaw (4 tailed bandage), (5) The Ribs, (6) The Thigh, (7) The Leg.

MEETING V.—BY THE SURGEON.

Lecture, 1 hour.—General description of the Circulation of the blood, and the mechanism by which it is carried on; difference between Arteries, Veins, and Capillaries. The Pulse; Hæmorrhage; Treatment of severe hæmorrhage—Elevation of part; Digital pressure; points where arteries may be compressed by pressure. Proximal pressure on the main artery supplying wound, either by hand or by tourniquet; Improvised tourniquet; Method of making and applying an improvised tourniquet. Names and positions of the main arteries, with illustrations of

arrest of hæmorrhage from—(1) The Armpit, (2) The Upper Arm, (3) The Fore Arm, (4) The Hand, (5) The Thigh, (6) The Ham, (7) The Leg, (8) The Foot. Demonstrations of the temporary treatment of a Compound Fracture (with hæmorrhage) of the Skull and of the upper or lower extremity. Arrest of hæmorrhage, from ruptured varicose veins. Internal hæmorrhage—bleeding from the nose. Blood spitting. Vomiting of blood.

Practice, ½-hour.—The members of the Class will, under the Surgeon's supervision, digitally compress and apply improvised tourniquets on all the main arteries.

MEETING VI.—BY ASSISTANT TEACHER.

No lesson will be given, but questions will be asked on Meeting V., and the whole of the rest of the time will be given to practice.

Practice.—The members of the Class will systematically practise the arrest of supposed cases of hæmorrhage from the various arteries. Male classes should be formed into line and numbered. The odd numbers should digitally compress the main arteries of the even numbers and *vice versa*. After the exact position of the artery has been taught, and the pupil knows how to compress it with his fingers, he should apply a tourniquet. In female classes boys are to be in requisition.

MEETING VII.—BY THE SURGEON.

Lecture, 1 hour.—A short account of Respiration, its objects and mechanism. Asphyxia causes. The immediate treatment of those apparently drowned or suffocated by (1) Hanging, (2) Poisonous gases and smoke, (3) Choking. Treatment of Poisoning. Convulsions in children. Scalds and stings.

Practice, ½-hour.—The members of the Class will, under the supervision of the Surgeon, each perform artificial respiration. The Fireman's Lift (for males only) will be taught. *Demonstrate the change produced when an acid is added to an alkali, by mixing a 4 per cent. solution of acetate of lead to a solution of bi-carbonate of soda (1 in 16).*

Each pupil is to receive a copy of the Poison Card. These are not to be returned.

MEETING VIII.—BY ASSISTANT TEACHER.

Lesson, ½-hour.—Poisons will be carefully reviewed, and the pupils questioned as to what they would do in suggested cases of supposed poisoning. Shock from electricity.

Practice, 1 hour.—Fireman's Lift (for males only). Each pupil will systematically go through the steps necessary for restoring the apparently drowned.

The application of the triangular bandage to (1) The Hand, (2) The Foot, (3) The Chest, both back and front.

MEETING IX.—BY THE SURGEON.

Lecture, 1 hour.—A short account of the nervous system. What to do when a person is found insensible; the important characteristic symptoms and treatment of the following conditions:—(1) Fainting, (2) Injury to the Head (concussion), (3) Hysteria, (4) Epilepsy, (5) Apoplexy, (6) Shock (collapse), (7) Hæmorrhage—internal and external (compression), (8) Sunstroke, (9) Malingering Fits, (10) Alcohol, (11) Convulsions. The differences between the insensibility of collapse from drink, and the insensibility of apoplexy. The immense importance of remembering

that alcoholism frequently masks many of the above conditions; the importance in treatment of erring on the safe side.

Practice, ½-hour.—Improvised methods of lifting and carrying the sick or injured. The improvised method with three bearers. The improvised stretcher. How to carry a stretcher upstairs. The two, three, and four-handed seat. (*To be practised by both sexes.*)

MEETING X.—BY ASSISTANT TEACHER.

Lesson, ½-hour.—Recapitulation of subjects treated in Meeting IX.

Practice, 1 hour.—Improvised methods of lifting and carrying. Stretcher drill with four bearers (for men only). Revise application of splints and bandages in cases of fracture.

MEETING XI.—BY THE SURGEON.

Lecture, 1 hour.—Treatment of Burns and Scalds, Electric Shock, Bites of animals, possibly rabid, Frost-bite, Stings, Snake bites, Vitriol throwing, Cut Throat. The simple First Aid treatment of wounds by clean dry dressing, or by mildly antiseptic dressings.

Treatment of foreign bodies, in the throat, stomach, ear, nose and eye. How to treat lime in the eye. What to do when the dress catches fire. The management of the clothes in street accidents. Preparation of the bed and bedroom in case of accidents.

Practice, ½-hour.—Stretcher drill with four bearers (for men only.)

The students should again be tested in their knowledge of digital pressure on the main arteries, and if time permit, tested orally on their knowledge of the whole subject generally.

MEETING XII.—BY ASSISTANT TEACHER.

Lesson, ½-hour.—The pupils should be examined orally on Poisons and on the theoretical part of the course generally.

Practice, 1 hour.—Stretcher drill with four bearers (for men only). Improved methods of lifting and carrying. Artificial Respiration. Fireman's Lift (for men only). Practice with the triangular bandage.

APPENDIX XIV.

OUTLINE SUGGESTED BY MR. THOMAS BRYANT, F.R.C.S., OF (1) SYLLABUS OF FIRST AID INSTRUCTION FOR POLICE AND (2) RULES TO BE OBSERVED BY POLICE IN DEALING WITH CASUALTY CASES.

(See Question 1404.)

I.—OUTLINE OF SYLLABUS OF LECTURES.

(*The following Lectures or Demonstrations to be attended by every Constable BEFORE he is placed on patrol duties, and he should pass an examination, practical and theoretical, in the subjects taught, high enough to obtain a pass certificate before he enters on these duties.*)

Each Lecture or Demonstration to last about one hour, to be followed by a practice class.

REGIONS OF THE BODY.

DEMONSTRATION OR LECTURE I.

1. *Head and Neck.*—Contains the organs of the special senses and of volition. The bones of the skull form a protection for the brain.

2. *Thorax or Chest.*—Contains the organs of respiration and circulation. The spine and ribs and sternum form a protection for the lungs and heart.

3. *Abdomen or Belly.*—Contains the organs of digestion and secretion. Spine and muscles form a distensible cavity for stomach, bowels, etc.

4. *The Pelvis* forms a bony basin for protection of bladder, rectum, uterus, etc.

5. *Upper Extremity or Limb.*—Is an organ of prehension—called the Arm from shoulder to elbow—the Fore-arm from elbow to wrist.

6. *Lower Extremity or Limb.*—Is an organ of locomotion—called the Thigh from hip to knee—the Leg from knee to ankle.

WHAT TO DO FOR THE INJURED.

LECTURE II.

The Skeleton — Fractures — Dislocations.—Different kinds of fracture. How to judge if a bone be broken. Danger of moving a person suffering from a broken bone. What may be done for broken bones. Splints.

Practice.—The application of splints and triangular bandages for fractures.

(*A small boy must be in attendance as a model for bandaging.*)

LECTURE III.

The circulation of the blood—Heart. Arteries, veins, capillaries. Why the blood goes through the lungs.

Danger of loss of blood—Different methods of controlling this loss.

Practice—Tourniquet, and triangular bandaging for hæmorrhage. Application of pressure to stop bleeding.

LECTURE IV.

Unconsciousness due to injury or disease—Causes of this condition. Fainting. Suffocation. Sunstroke. Intoxication. Shock and collapse. Convulsions in children.

Practice—Triangular bandaging. Methods of carrying patients.

Two Poles about 6 feet long and a rug or blanket must be provided.

LECTURE V.

Burns—How to put out flames if a person be on fire. How to dress a burn. Shock resulting from burn.

Poisons—Effects of certain poisons. Homely antidotes. Use of emetics. Useful rules.

Bites and stings—How to stop pain, and prevent harmful consequences.

Practice—Dressing wounds, burns, and scalds. Bandages for sprains; slings; application of poultices, etc.

LECTURE VI.

Drowning—How to revive a patient. Artificial respiration.

Wounds—Different kinds. Methods of cleansing and dressing. Removal of anything that has accidentally got into the ear, nose, or throat.

Practice—Artificial respiration.

Two triangular bandages should be provided for each member of the class. A square of butter cloth or art muslin 40 inches wide, cut into two diagonally, will make two of these triangular bandages.

A few old newspapers, pieces of wood, stout cardboard, and other articles suitable for use as splints must be provided.

II.—OUTLINE OF RULES TO BE OBSERVED BY POLICE IN DEALING WITH CASUALTY CASES.

Printed instructions to be given to a constable, after he has attended a course of six First Aid lectures or demonstrations, and passed an examination good enough for a first certificate.

A policeman when called to a case of accident should take charge of it, and write in his book as good an account as he can obtain of the method of production of the injury, with its seat, together with the other particulars of the occurrence.

He is not called upon to diagnose the injury, but he is required to learn by inquiry, personal observation and examination, what part of the body has been involved, and if there is any wound.

Wounds.—If a wound exists, he should cover it up at once by a First Aid antiseptic dressing, such as could be supplied by the St. John Ambulance Association.

Injuries to Head, Chest, Abdomen or Pelvis.—Should there be any evidence, or from the mode of production of the injury any suspicion of mischief to the contents of any of the four great cavities of the body, viz.:—

1. *The Head* which contains the Brain :
2. *The Chest* which holds the Heart and Lungs :
3. *The Abdomen*, or Belly, which contains the Liver, Stomach and Intestines, Kidneys and Spleen :
4. *The Pelvis*, which protects the Bladder, Uterus, and Rectum :

the constable's duty is to avoid all manipulations and to transport the injured person as safely as possible in an ambulance to where he is to be treated—the injured person, from first to last, being rigidly kept lying down, with his shoulders and head slightly raised on a pillow and with the head rotated to one side.

It should be understood by all constables that a horse or motor ambulance should always be employed in the transport of all cases of suspected injury to the contents of any of the four cavities ; and that in the transport all shaking or jolting movements are to be carefully avoided, particularly in driving rapidly over rough roads in outlying districts.

In cases of illness, faintness and shock.—In all cases of whatever kind associated with faintness, shock or unconsciousness, and in all cases of sudden illness, the patient must be conveyed lying down, either in a horse or motor ambulance, or, if the distance be short, in a wheeled litter or stretcher.

In cases of serious bleeding.—If anything like serious bleeding be present he should deal with it as he has been taught, and send for local surgical aid.

Should the bleeding come from the thigh or leg the limb should be raised, with the patient in the horizontal posture.

In cases of fracture.—Should any bone be found, or be suspected to be broken, great care must be observed not to manipulate the part but to bind the injured limb in a straight position upon a splint as soon as possible, to prevent movement during the transport of the patient to the Hospital, Infirmary, or Home.

In all cases of fracture of the hip, thigh, or leg an ambulance is called for, so that the injured person may lie down. On no account must the patient be put in a cab or other such vehicle.

Injuries to the upper extremity.—In cases of injury to the upper extremity, without any serious general symptoms, a cab or carriage may be used if an ambulance is not available.

NOTE.—The constable is to understand that in the majority of all cases the transport by ambulance is to be preferred to any other.

The wheeled hand litters are useful for such cases as occur near to a hospital or infirmary, but all distant cases should be transported by horse or motor ambulance.

APPENDIX XV.

SUMMARY OF REPORTS RECEIVED FROM 133 DIVISIONAL SURGEONS AS TO THE METROPOLITAN POLICE AMBULANCE SYSTEM IN REPLY TO THE QUESTIONS STATED.

Handed in by Mr. Clinton Dent, Chief Surgeon to the Metropolitan Police. (See Question 3402.)

I. Question.—For dealing with street accidents or cases of sudden illness occurring in the streets, would it, in your opinion, be advantageous to institute a system of horse or motor ambulances ?

Replies :

	Yes.	No.
Town Divisional Surgeons	34	4
Country Divisional Surgeons	76	19
Total	110	23

While not agreeing with motor or horse ambulances, one Divisional Surgeon (town) would increase the number of wheeled litters or ambulances. A Divisional Surgeon (country) suggests that ambulances should be available at each fire station and at certain public houses.

Two Divisional Surgeons (country) suggest that horse ambulances would be cheaper, as horses can be jobbed.

A Divisional Surgeon thinks that motor or horse ambulances are useful in getting to a patient quickly, but are rather too springy unless going very steadily.

Horse ambulances are already in existence at Ilford, Barking and Barnes.

II. Question.—If your reply to the first Question is in the affirmative, would you be in favour of—

(a) Wholly abolishing the wheeled litters or ambulances at present in use by the Metropolitan Police, or

(b) supplementing the existing wheeled litters by horse or motor ambulances ?

Replies :

	Abolish.	Supplement.
Town Divisional Surgeons	2	30
Country Divisional Surgeons	9	61
Total	11	91

Several Divisional Surgeons suggest that the litter might be improved. One Surgeon suggests that the litters should be retained in case the motor ambulances got out of order, one that a small motor tricycle should be provided to pull the litter, and five recommend that the litters should only be used for the conveyance of dead bodies or for "drunk and disorderlies."

One Divisional Surgeon reports "The wheeled litters are of great value for short distances, I recently put one

through a wire fence, without cutting the wires, and had to take it half a mile through thick forest, where a horse ambulance could not have been taken."

III. *Question*.—Is it your experience that the Metropolitan Police generally show themselves intelligent and efficient in rendering "First Aid"?

Replies :

124 Divisional Surgeons generally answer in the affirmative, some in a very decided way.

9 Divisional Surgeons reply, respectively, as follows :

"In the minority of cases, yes ; in the majority, no."

"Only fairly so."

"Yes, but their diagnosis is extremely defective and dangerous errors are frequent."

"Fairly so."

"As much (and as little) as one finds in any one who has been through a First Aid course."

"Generally fairly so."

"During 20 years' service as Divisional Surgeon I have met many competent and intelligent men in this class of work, but they do not constitute a majority of the Force."

"Fairly, but efficiency might certainly be improved and brought more up to date."

"Fairly efficient."

IV. *Question*.—Is it your experience that there is any marked distinction in rendering First Aid between police who hold certificates or medallions and police who do not?

Replies : 53 Divisional Surgeons reply in the affirmative and 33 in the negative, while 37 are unable to say, owing chiefly to the difficulty in distinguishing between the two classes. Two Divisional Surgeons are of opinion that the difference is due more to natural intelligence than to training, and one Divisional Surgeon thinks that it depends upon the liking for the work.

V. *Question*.—Is it your experience that Police show, generally, good judgment in—

(a) Choice of means of transport to nearest surgery or hospital?

(b) Deciding when to summon a medical man?

Replies :

(a) The majority (126) of Divisional Surgeons reply in the affirmative. Seven Divisional Surgeons qualify their replies as follows :—

"Fairly good judgment, but they attach too much importance to the stoppage of the traffic, and patients are taken to hospital in vans and even in barrows to save time."

"No. Several times lately long time has been wasted waiting for the ambulance, when I have got a shop shutter and taken the case off on that."

"Yes, generally, but here a knowledge of First Aid is often of great use."

"Inclined to economise and keep a patient waiting for ambulance (sometimes as long as half-an-hour or more) instead of the expense of a cab."

"No. I think they are at fault in not availing themselves of the first conveyance at hand. I think

they should be empowered to 'commandeer' the first passing vehicle instead of waiting long periods for the arrival of the ambulance. In case of cabs, certificates could be issued for payment."

"If anything, police are too fond of transporting any one as quickly as they can before the Divisional Surgeon or other medical man has seen and diagnosed the case. Hence mistakes in choice of method of transport."

"I think there is a tendency in some districts to rely too much on hansoms which are quite unsuitable."

(b) Two Divisional Surgeons reply in the negative, the remainder (131) answering in the affirmative, with the following qualifications :—

"No. I am strongly of opinion that lives are occasionally lost, and injuries increased, by removal to the nearest hospital instead of getting medical aid *in situ*."

"Too many cases are removed to hospitals that could have been treated by Divisional Surgeons. &c."

"They do not. They summon me to persons obviously drunk, and administer brandy to cases of cerebral hæmorrhage on their own initiative."

"Yes, though one may now and again hesitate thinking the police 'are not allowed to incur expense.'"

"It is impressed upon me that, with few exceptions the police ought always to summon a medical man. There is a growing tendency to shift into a hospital at once."

"Yes, as a rule. I think they are over cautious, but this is safer than negligence."

"Yes, and I am of opinion that the police ought to have a completely free hand in the matter."

"Yes, except occasionally in cases of alleged drunkenness."

"Yes, except that I do not consider the medical man is summoned frequently enough in many doubtful cases. The police rely too much on their own judgment."

"As the instructions to the police on this point are very explicit and emphatic, I should judge that they are more likely to summon a medical man when not absolutely necessary than to neglect to do so when they ought."

VI. *Question*.—Would it, in your opinion, be an advantage if :—

(a) Divisional Surgeons gave the advanced instruction in 'First Aid'?

(b) If your reply to VI. (a) is in the affirmative, would you be prepared to give the necessary instruction?

With the exception of 32, the Divisional Surgeons, to the number of 101, answer in the affirmative. Four would be unable to give the instruction themselves, but four who do not think it an advantage, would, if the scheme were adopted, be willing to give instruction. Several Surgeons suggest that the instruction should be remunerated.

Seven Divisional Surgeons are at present instructors under County Councils or the St. John Ambulance Association.

APPENDIX XVI.

MEMORANDUM FROM THE RECEIVER FOR THE METROPOLITAN POLICE DISTRICT, WITH RESPECT TO THE METROPOLITAN POLICE FUND. (*See Report, par. 100.*)

The income of the Metropolitan Police Fund is derived from the Police Rate levied under the Act 10 George IV., C. 44, S. 23, and amending Acts.

This rate is limited by 31 and 32 Vict. C., 67, S. 2, to 9d. in the £ on the rateable value of the Metropolitan Police District, of which 5d. is raised by precepts (issued half-yearly on 1st January and 1st July in each year) upon the various parishes, &c., comprised within the district, and the balance of 4d. is contributed by the Local Taxation Account under the Act 51 and 52 Vict. C. 41, S. 24 (2k). Since the Agricultural Rates Act, 1896, came into force (59 and 60 Vict., C. 16) the deficiency in the produce of a 5d. rate on the parishes thereby created has been recouped by a further grant from the Local Taxation Account, so that the total amount a 9d. rate would produce is still received by the Police Fund.

The following figures give the total ordinary income, and total ordinary expenditure of the Police Fund for each of the past three years, the amount of Pension Fund deficiency included in such expenditure and the actual annual deficit on the Police Fund.

Year.	Ordinary Income.	Ordinary Expenditure.	Amount of Pension Fund deficiency. (<i>Included in col. 3.</i>)	Annual Deficit on Police Fund.
(1)	(2)	(3)	(4)	(5)
1905-6	2,278,971	2,295,577	177,960	16,606
1906-7	2,335,048	2,363,597	193,678	28,549
1907-8	2,361,315	2,363,197	204,109	1,882

APPENDIX XVII.

METROPOLITAN POLICE REPORT ON THE MEANS USED FOR TRANSPORT OF THE PERSONS INJURED IN THE CHARING CROSS RAILWAY STATION DISASTER (FALLING OF A PORTION OF THE ROOF), ON THE 6TH DECEMBER, 1905.
(See Report, par. 3.)

Immediately the disaster became known to police, medical aid was summoned from Charing Cross Hospital, and all the available staff was present at the railway station.

Telegrams were sent to surrounding police stations for police and ambulances, and a large staff of police and the following number of ambulances were quickly brought to the scene.

From Commissioner's Office, New Scotland					
	Yard ...	...	...	...	4
"	A Division ...	...	...	...	3
"	C " ...	...	...	...	2
"	D " ...	...	...	...	2
"	E " ...	...	...	...	3
"	L " ...	...	...	...	2
"	Hospitals (Charing Cross and King's College) ...	...	...	...	2
"	Strand (Bischoffsheim) ...	...	...	...	1
"	Railway Station, Charing Cross ...	...	...	...	1
	Total ...	...	...	...	20

The Fire Brigade was also called, and two engines, two escapes and two salvage vans attended.

Telegrams were also sent to King's College, Westminster and St. George's Hospitals requesting them to be prepared to receive patients in case of necessity, but all were attended to at Charing Cross Hospital.

Four dead bodies were taken from the ruins.

Thirty persons were taken to hospital, two of whom shortly afterwards died, seven were detained in the institution, and 21 were attended to and sent to their homes.

Eighteen of the above persons were conveyed on ambulances, six by cabs, and six by private persons and railway officials.

APPENDIX XVIII.

METROPOLITAN POLICE REPORT ON THE SERVICES RENDERED BY THE POLICE WHEELED LITTERS ON THE OCCASION OF THE COLLAPSE OF HOUSES IN CASTLE STREET EAST, IN APRIL 1908. (See Report, par. 3.)

Collapse of two houses at Castle Street East, Oxford Street, on 6th April, 1908, at 2 a.m.

On police receiving the first intimation of this catastrophe at Tottenham Court Road Police Station, a telephone message was at once sent to the nearest surrounding police stations and in about half an hour the following police ambulances were all collected on the spot and brought into use, viz. :—

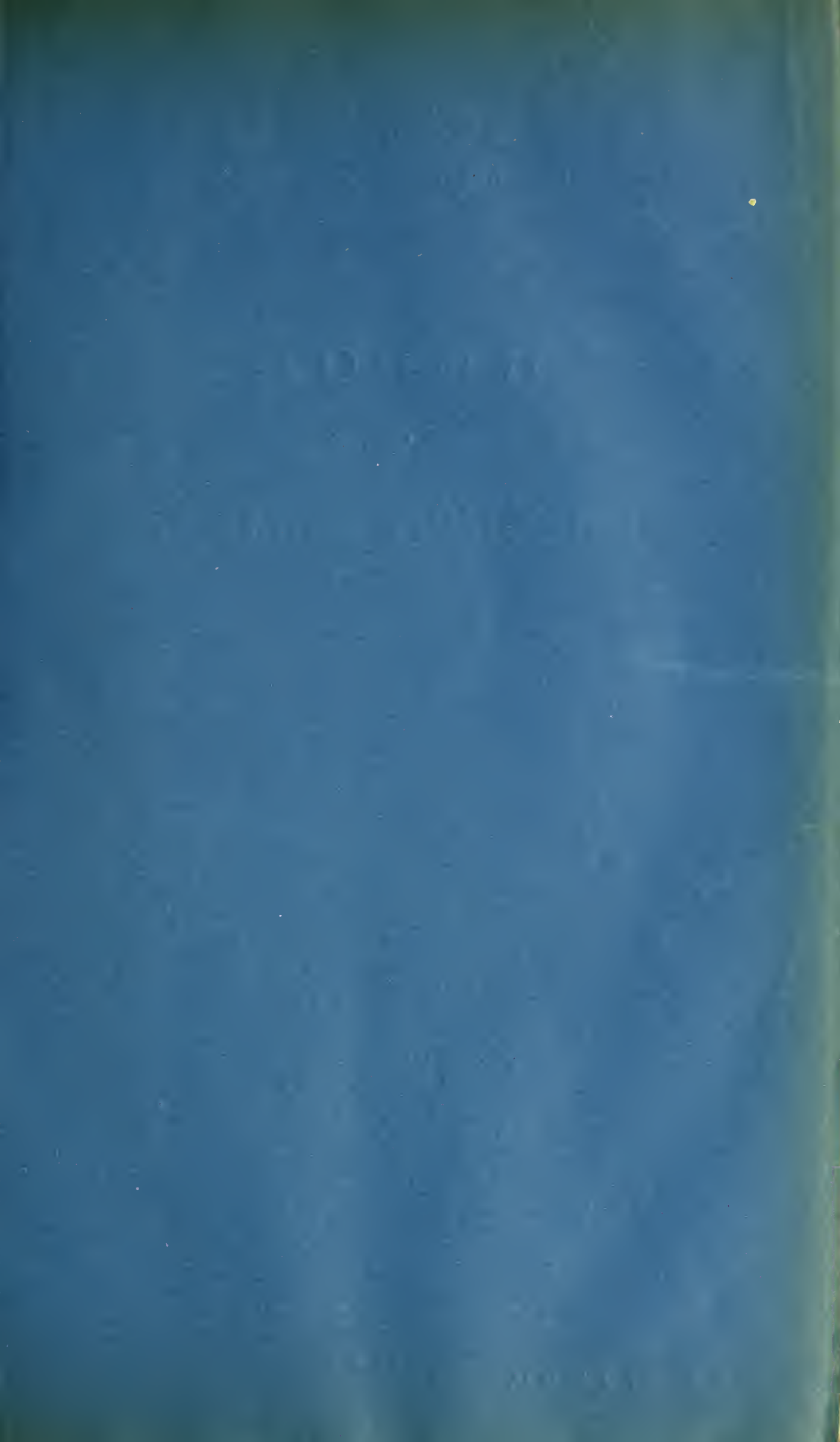
- *1. Tottenham Court Road Police Station.
- *1. Marylebone Lane Police Station.
- 1. John Street Police Station.
- *1. Vine Street Police Station.
- *1. Marlborough Street Police Station.
- 1. Albany Street Police Station.
- 1. Paddington Police Station.
- *1. Portland Road Station Street Ambulance.
- 1. Shaftesbury Avenue Street Ambulance.
- 1. Allsop Place, Clarence Gate, Street Ambulance.

Those marked * were all on the scene within 15 minutes from time of call.

Twenty-eight persons were buried in the debris, 20 were brought out alive and eight dead, and with two or three exceptions they were all conveyed on the ambulances to Middlesex Hospital, Goodge Street, or the temporary Hospital fitted up for the occasion in Great Portland Street.

A horse ambulance from Middlesex Hospital subsequently arrived about 3.30 or 4 a.m., but not being required was taken away again by the authorities.





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MINUTES OF EVIDENCE
TAKEN BEFORE THE
DEPARTMENTAL COMMITTEE
ON THE
LONDON AMBULANCE SERVICE
AT THE
HOME OFFICE, WHITEHALL.

FIRST DAY.

Tuesday, 14th May, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. The EARL OF STAMFORD.

| Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Sir EDWARD HENRY, K.C.V.O., C.S.I., called and examined.

By the Chairman.

1. You are Commissioner of the Metropolitan Police ?
—Yes.

2. And have been so for how long ?—Since March, 1903.

3. Before that you were Assistant Commissioner ?—Yes.

4. I think you would probably prefer to give your evidence in your own way. First of all about the two services with which the police have been concerned, and the horse-ambulance service: you propose to give a short account of the history of the latter, and, though perhaps it does not fall quite strictly within our reference we had better take it in the form you propose, if you will give it shortly ?—The Police Ambulance Service for the removal of sick or injured persons from the streets is one service. For this purpose they have wheeled hand litters placed at every police station and other suitable places; and there was also an ambulance service on a very limited scale for the removal of sick persons from their homes to hospitals. This had been administered by the police for a quarter of a century, till the ambulances grew obsolete and became worn out; it was completely abandoned only a few months ago, and the service is now undertaken by the Metropolitan Asylums Board. Perhaps it would be convenient if I give a brief sketch of this service, and the connection of the police with it, before proceeding to deal with the system of street ambulances. In 1882 the London Horse Ambulance Service was instituted, under the presidency of His Royal Highness the Duke of Cambridge, and under the acting management of Mr. J. H. Crossman and Mr. A. Haggard, the then Secretary of the London Hospital. It was originally contemplated that this service, which was "to be at the disposal of persons of every class of society for extreme and difficult cases of illness or accident requiring removal to a hospital or elsewhere on the order of a medical man,"

should be administered by the hospitals; but these corporations having objected that their funds and energies could not legitimately be drawn upon for the purpose, the Society turned to the police, and the then Commissioner agreed that where space permitted the ambulances could be placed at police stations, and that the police would do all in their power to assist those desirous of using them. These were one-horsed wagons, designed for the purpose by Dr. Benjamin Howard, and in use in New York for the ambulance service there. They were fitted with suitable litters within, with accommodation for an attendant, and were covered with a canvas cover. The only charge made to the patient was the actual cost of horsing the ambulance, for which purpose the police entered into local contracts. In some necessitous cases no charge was made (of rare occurrence), this being the only expense thrown upon the Police Fund in connection with the service. These ambulances do not appear to have been used in connection with street accidents, but solely for the conveyance of sick or injured persons from their homes to hospitals. Considerable interest was shown in the Society when it was formed, but it soon died away, so much so that, in place of the 15 ambulance stations which it was proposed to establish in London, only three were established. Of these the first ambulance was the gift of Lord and Lady Brabazon. This was stationed at Carter Street, Watworth Road. The second, which was placed at Stoke Newington, was given by Mr. Crossman; and the third, which first was stationed at Wandsworth and ultimately found its way to Rochester Row, was also a private gift. These are the three horse ambulances to which a good deal of reference has been made of late. As I have said, they have not been used for street accident work, but they have done good service in their day, and a debt of gratitude is due to their donors. They are all obsolete now, and quite worn out, and have recently been condemned. The fourth horse ambulance, which belonged

Sir Edward Henry.

to the 18th Middlesex Rifle Volunteers, stood for many years at Paddington, where it was placed at the instance of Dr. Danford Thomas. When not in use by the corps it was used in the same manner as the ambulances of the London Horse Ambulance Service. When, after many years of useful work, these ambulances became worn out, endeavour was made to find some way of replacing them. I conferred on the subject with Mr. Thomson Lyon, the Chairman of the Ambulance Committee of the Metropolitan Asylums Board, and this work of removing the non-infectious sick from their homes to hospitals has now been taken over by the Metropolitan Asylums Board, who, with their efficient staff and service, can cover the ground far more quickly and effectively than has ever been done in the past.

By Sir William Collins.

5. When was your conference with Mr. Lyon?—Not very long ago. At various times I have spoken to him. I put in the Orders which have been made (*handing in the same, which are printed in Appendix III.*).

By the Chairman.

6. The first Order, marked "A" (*Appendix III.*), gives the arrangements made under the old system in 1882?—Yes.

7. The second Order, marked "B" (*Appendix III.*), is dated 12th June, 1906, and is an arrangement recently come to, is it not?—It is an arrangement recently come to; the Order is to give effect to the arrangement.

8. This Order shows exactly the relations of the police to this service?—Yes, but this service referred to in the Order marked "B" is the service that is available for street accidents.

9. So I understand. That is part of the understanding between you, that you can have the use of their ambulances for street accidents, if necessary?—Yes, that is part of the understanding between us.

10. Will you go on, please, with the other part of your evidence. I daresay there will be some questions at a later stage to ask you about this earlier part?—I now proceed to the subject of accidents in the streets, the instructions to the police for dealing with these being contained in the Order of which the accompanying, marked "C" (*Appendix III.*), is a transcript.

11. Perhaps we had better just get generally on the notes what the nature of the Police Orders is?—These Orders are the directions under which the police act. They are published in the Police Orders and circulated to the Force. They subsequently appear in the General Orders, with which you are well acquainted.

12. So far as we are concerned now, these Orders may be taken to be, I suppose, the general directions, going into some minuteness, under which the police act and what they have to do, instructing them in their duties in reference to this particular service?—That is so, exactly. Special measures are taken to make police officers competent to render first aid in the streets. Every recruit on joining undergoes a course of instruction, being taught the rudiments of first aid, and I am informed that for the most part they prove apt pupils. Later on, a constable is encouraged to attend lectures and to qualify for the St. John Ambulance Association's certificate and other similar certificates of competency. 10,383 men, according to the latest Return of the Metropolitan Police, are in possession of such certificate or certificates; and no doubt, in time, a still larger proportion will become qualified; and I hope to see my way to offer some inducement to the men to obtain further qualifications. On an accident occurring in a busy street, a constable is, as a rule, soon on the spot. If the injury is but slight, he proceeds to render first aid, or takes the injured person to the nearest hospital in the conveyance most readily available. Many persons prefer to walk, if they can, especially if the distance be but short. During 1906, 1,950 persons injured or taken ill in the streets walked to hospital. If the injury is more serious, the constable would send in one direction for the nearest doctor, and in the other for the ambulance, proceeding to render first aid with such materials as may be at hand. He is taught to avail himself of a broom handle, bottle straws, pads of newspaper and other simple materials, so that he may be able to render first aid in necessary cases. By the time the doctor is on the spot, the ambulance is also there, with its supply of splints, bandages, etc., and, under medical supervision, if available, though often without it, the patient is lifted upon the ambulance and taken away. A doctor was called in 2,316 cases during 1906; that is to say, any doctor that happened to be near—not the

divisional surgeon, but the nearest doctor. I hand in Returns, Nos. 1 to 4 relating to Accidents, and Nos. 5 to 8 relating to Cases of Sudden Illness in the Streets in 1906 (*handing in the same, which are printed in Appendix II.*).

13. That is, a doctor was called in about 21 per cent. of the total number of accidents?—That 21 per cent. is including illness; that is, sudden illness or accident.

14. Sudden illness or accidents in the streets?—Yes.

15. Not illness occurring in a house?—No; sudden illness in the streets; when a man falls down in a street from sudden illness.

By Sir William Collins.

16. Which comes under the cognisance of the police?—Yes; all these figures relate to cases of which we have knowledge.

17. What was the total you are dealing with of which this was the percentage?—It is 8,002 cases of accidents and 2,853 cases of illnesses; so that is roughly, you may say, 11,000 cases. The messenger for the ambulance or for the doctor may use a cab or telephone or any expeditious means, the Police Fund ordinarily bearing the cost.

By the Chairman.

18. I suppose messenger means anybody the police can get hold of at the moment?—Yes; or if there is a passing cab, the cabman might be told to go to the ambulance station. The Ambulance system proper consists of about 346 ambulances; there are probably rather more than that; there will be more very shortly, because they have not all been put out. There is very great difficulty in some instances in getting a site for them; even where the local authority approve of a site the residents object. For instance, we have a case pending now. The residents of Wellington Square, Chelsea, object to an ambulance being put there; the local authority want it put there, but the residents say it will be an eyesore in their square; and I have had solicitors' letters from them threatening all sorts of consequences. I am still discussing the matter with them. There is some difficulty about sites, and that is why we have a number of ambulances still to be put out; we know where we want them, and we shall probably get them put out somewhere near the spot which I have selected, though perhaps not exactly at the spot selected.

19. Have they been increasing rapidly? Are you adding to them constantly?—We have added a good many in the last year.

By Sir William Collins.

20. Are they all hand ambulances?—Yes; wheeled litters. While I think of it, perhaps the Committee would like to look at some of them; there are a number in the quadrangle at Scotland Yard, which will give you a good opportunity of inspecting them.

21. Are they what are called the Furley pattern?—I do not know. We call them our pattern. It is a development of the Furley pattern, I am told. Of these 346 ambulances, I should think there are about a couple of hundred in the administrative county area, which is about 120 square miles, our total area being about 700 square miles. You may say it is roughly a circle with a radius of perhaps 6 miles, as against a circle with a radius of 15 miles. Of course it is not a circle, because on the east it goes out very much, as you know. These wheeled litters are of two types principally. There is the police wheeled litter, and there is the service placed at the disposal of the public through the munificence of Mr. Bischoffsheim. There are also in that 346 included 16 hand ambulances provided by Borough Councils, seven which have been provided by the London County Council, and seven which have been provided by the St. John Ambulance Association; there are four in the Royal parks provided by the Office of Works, and 15 others provided by various authorities. There are other ambulance services which are not immediately at our disposal, but which have been made use of on occasions. The Metropolitan Asylums Board have certain ambulances which we can call upon, but they are not under our control in any way. The number of police ambulances is added to from time to time. In 1883 there were only 73 throughout the whole Metropolitan Police District. Of the total present number of 346, 188 were placed at police stations and 158 at other points in the streets and elsewhere, where they can be made readily available. Their distribution in the inner area is shown upon a map, which, I think, will

Sir Edward Henry.

be of considerable assistance to the Committee (*handing in the same*). I have only been able to give you a map with a radius of about $3\frac{1}{2}$ miles, on account of the size; but I have had it photographed and have marked on it the position of all the ambulances, hospitals, infirmaries, and everything, as you will see at a glance.

22. Are there many ambulances stationed at Fire Brigade stations?—No, we have not many stationed at Fire Brigade stations; very few.

By the Chairman.

23. What is the difference between the red and the blue marks on the map?—The red triangles are police ambulances in the streets; the round red dots are police ambulances at police stations; the black triangles are Bischoffsheim ambulances; the round black circles are Borough Council ambulances. The necessary explanations are at the bottom. These circles on the map are half-mile circles; so that you see in the first half-mile circle you have 10 ambulances, I think; and that square with a white dot in the centre is a hospital. The infirmaries are marked with something like a harrow.

24. Then the black circle, I see, goes two and a half miles from Charing Cross?—It goes really further than that; it is over three miles. Of course, that does not represent very much; about 28 square miles; but still that includes the danger area, or rather the accident area. Those solid black round marks are the City Police ambulances.

25. I suppose you have nothing to do with them at all?—Nothing whatever. They have got 15 in their square mile. We have not shown their new electric ambulance. They have got a new electric motor ambulance, which Sir William Collins and I saw yesterday.

By Sir William Collins.

26. Which began work yesterday?—Yes, which began work yesterday. Of course, what we were both anxious to see was whether it would turn. That is always a difficulty with all traction vehicles. We have had very great difficulty over the cabs, because they brought up cabs to be passed and we would not pass them because they required 35 and 40 feet to turn in; gradually we have got it down to 25 feet, and I think it could be got down to less. So that I think there is some hope for the motor ambulance; I think they can get it to turn in very much less than that one we saw yesterday. I do not know why it should not turn in 25 or 28 feet.

By the Chairman.

27. What can a motor ambulance turn in now?—I should think the one we saw yesterday would not turn under 40 feet. It had to back quite out of the hospital, and it would not be very suitable, of course, in its present form.

By the Earl of Stamford.

28. Is it the one we saw exhibited in Gray's Inn Square in the spring?—I was not there myself, and I do not know whether they were tested for their turning capacity.

29. I do not think so?—That is a very important point.

By Sir William Collins.

30. Yes, it was the same one. (*Witness*) The question of the use of police street signals, and in that connection the employment of horse ambulances in addition to wheeled hand ambulances for the removal of persons injured in the streets, has for many years been considered by the police.

By the Chairman.

31. Would that be a separate system of signals?—I will put it in this way: It would not be possible to have more than a limited number of horse ambulances on account of the great cost. If you have a horsed ambulance you must have drivers and you must have them available for the whole of the 24 hours. We are not in the same position as the City Police, who, at night, have a population of under 30,000, and in the daytime a population of a million; for we have always the same population to deal with, and have always busy streets until one or two o'clock in the morning, as you know. In the City the streets get quiet comparatively early, so that there is less chance of accident; but we would be compelled to keep someone able to drive a motor or horse ambulance throughout the 24 hours, that is to say, we should require at least three men for each ambulance, and we should require a considerable number of such ambulances. But even so we could not possibly have such a large number that without

street signals we could summon one in time; so that if you have horsed ambulances or motor ambulances of any shape or form you must also consider the question of a system of street signals. The City have provided for that with their new electric ambulance; they have 52 different signal places throughout the City, so a constable, by going to one of these, can summon the ambulance. That is in a square mile, and we would have to adopt a somewhat similar system if we relied entirely on either horse or motor ambulances.

By Sir William Collins.

32. Your point is that a rapid ambulance service and telephone street calls must be considered together?—Quite; I think that is a *sine qua non*. In 1888 the merits of two different systems of street signals were under discussion, and, as a result, one known as the Public Safety Signal was established on trial at Islington during the years from 1889 to 1893; and the other, known as the National Signal, was established experimentally at Brixton from 1892 to 1894. In the one instance, under the one system, nine; under the other, ten signal posts were fixed, these being in immediate proximity to a fixed point, and connected by wire with the police station. Each system had a telephone by which verbal messages could be sent or received, and there was a dial, upon which, by the manipulation of a pointer, a series of simple messages could be sent to the police station. It was possible also to supply citizens' keys at a small charge, by means of which any respectable citizen could send a message to the police for assistance.

By the Chairman.

33. What does that mean?—The citizen's key system was this: We established a sort of telephone system direct to a police station, and if you happened to be a resident close to one of these call-boxes you were given a key, and you could at any time go out of your house and call the police and apply for aid or information. That was considered to be an advantage.

34. Was it largely taken up? Did many people take advantage of it?—I was going to proceed to tell you that it was not found very satisfactory; it did not work very well. There were facilities also by which a constable on his beat could record his passing. It was thought that it would be a sort of help, from a supervision point of view, if the passage of a constable on his beat could be registered, the idea being to lessen the need for supervision. In addition, a patrol wagon stood ready at the police station, prepared for instant dispatch, either to pick up a drunken prisoner, to carry additional police assistance where needed, or on its stretcher to bear an injured person to hospital. The Brixton system differed from the other, because it had a visual signal; that is to say, there was a disc which could be made to work in front of a street lamp, with which to call the attention of the man on the fixed point. After a long trial each scheme was abandoned, partly because too much had been expected of it, and partly on the grounds of cost. I am only speaking from papers; I have no actual personal knowledge of this at all.

35. All this came to an end about 1894?—Yes, long ago.

36. Have either of these two systems any special relation to the ambulance service?—Yes; because this patrol wagon was practically an ambulance; it had a stretcher in it, and all that, and it was practically a horse ambulance.

37. That was the Islington one?—Yes.

38. And had the Brixton one any ambulance?—It had a patrol wagon, too; they were all the same as regards those details; it was only in the method of signalling that there was some difference.

39. They were both tried at a period when the telephone system was far less elaborated than it is now?—Yes; they were not tried under favourable conditions. It was, I believe, the first attempt of the kind made in England, so the papers say, and many difficulties then experienced might now be got over. It was found at that time that, owing to the noise in the streets of Islington, it was impossible to utilise the telephone satisfactorily; and it was also demonstrated that the signal box check upon beat-patrolling was not an effective substitute for supervision by superior officers, and it was further found that no reduction in the strength of the force could be made to counter-balance the cost of the signal system. On the other hand, it was manifest that by maintaining a sufficient reserve for the purpose, the beats could be kept full when the patrol wagon fetching a prisoner was able to take out a reserve constable to replace for the time being the constable who had been withdrawn with the prisoner; and also that by

Sir Edward Henry.

the use of a simple group of signals, varied assistance could be readily obtained from the station in case of need ; and that, perhaps, gave a greater sense of security to citizens, while at the same time its existence might be held to impose some check upon rough and disorderly characters.

40. All that is inference that you draw from the papers ?—Yes, it is merely an inference from the papers ; I have no knowledge of it at all, it was long before my time. However, both systems were abandoned ; and somewhat similar systems since brought to notice were not taken up, it being held that they were probably not suitable for the special needs of London. What we have done has been to put a certain number of telephone boxes between stations and keep a man at the telephone box who can be communicated with. In that way, if stations are far apart, say three or four miles apart, we have a telephone box in the middle, we keep a constable on a fixed point there, and a message can be sent to him or he can telephone to the station and say, “here is a disorderly crowd and I want help.”

41. Has it been developed much in the last three or four years ?—A little.

42. That is for ordinary police purposes, including accidents ?—Mainly for police purposes proper, not for accidents ; but, of course, what we have done in the last three or four years is we have extended the telephone system to most stations, and we are extending it to all stations. There was a good deal of discussion about it, as you will remember, but it has been very widely introduced now. That is to say, we have put some stations on our private telephone system, and others we have put not only on our private telephone system but also on the public telephone system, so that residents can ring up the station if they want to do so. But we cannot do that, of course, in the centre here, because we should not be able to cope with the number of enquiries which we should receive.

43. All I wanted to be sure of was that this was not a special thing at all, but part of the regular police administrative system ?—Yes. The telephone box is obviously an adjunct of suburban police service and is not suitable for crowded areas, on account of the space it occupies and the fact that assistance in such places is readily obtainable.

By Sir William Collins.

44. Would there be many of these telephone boxes within what you spoke of as the danger area ?—No, hardly any. I do not know of one. The street signal probably may in London be deemed an essential adjunct of horse ambulances, since the telephone is not yet in sufficiently general use to be relied upon as a substitute, though the possibility might be considered of making arrangements with the telephone users willing to let the police use their telephones in cases of emergency, and who would also be willing to allow a mark of some kind outside their houses, so that the police might know where they could go to summon aid telephonically. With the close of the street signal experiments in Brixton and Islington, however, the use of the horse ambulance and patrol wagon also ceased, so far as London is concerned, though in Liverpool and other cities the principle has been adopted and developed. In 1889 Dr. Nachtel had been in communication with the Commissioner as to the success of his horse-ambulance system in Paris ; hence there was a special object in watching closely the working of the double experiment. Side by side with this, however, the Commissioner was receiving opinions not wholly favourable to the substitution of horsed ambulances for hand ambulances ; for apart from the very important element of time-saving in the case of serious injuries, the advantage, it was claimed, really lay with the hand ambulance, upon which an injured person could be conveyed with less jolting and vibration. So far as I understand the argument in favour of the hand ambulance, it is that the arms take the road shocks, and that when the road is at all rough that is a very important consideration. In a horse ambulance, owing to the pull of the traces, there is always liability to have a jerking movement if the roads are at all bad, as in Liverpool, where so many are paved with cobble stones, and where the wagon is bumped from one stone to another, and, as I understand, persons who have gone into this say that it is an advantage that the road shocks should be taken by the arms of the man wheeling the litter. However, you, Sir William, have probably gone into that and will be better able to appraise the force of the objection than I am ; but I did notice, when in Liverpool, those cobble stones, and I thought that the horse ambulance might cause a good deal of discomfort. I do not think it would do so in our streets, which are wood-paved.

45. And as to motor ambulances ?—I should think it must be much the same, I have not had any experience myself of driving a motor over cobble stone roads, and I do not know how the wheel takes the road jars. Pneumatics would probably lessen it very much. They are different from the iron tyred or even the india-rubber tyred vehicle which is not pneumatic.

46. The tug on the traces would be absent ?—Yes, that would certainly be absent.

By the Chairman.

47. Just at starting ?—Just at starting. It was determined therefore to endeavour to meet as far as possible the admitted need for expeditious removal to hospital by such a distribution of hand ambulances as would place them within easy reach of all points of congested London where accidents mostly occur.

48. When you speak of hand ambulances, do you mean always wheeled ambulances ?—Yes, wheeled by hand, pushed by hand. How far the object aimed at has been attained may be inferred from the fact that out of 10,855 cases, which include cases of sudden illness in the streets, taken to hospital during 1906, an ambulance was available within less than half-a-mile in 8,829 cases, or 81 per cent., while in 10,390 cases, or 96 per cent., it was less than a mile away. I think I had better also tell you what the figures were for a quarter of a mile, because that is rather more to the point—half-a-mile is a long way (*Appendix II., Tables (G) and (H)*). Out of the 8,002 cases of accidents in the streets with which the police had to deal, I find that 1,759 actually occurred within a quarter of a mile or less of the nearest hospital or infirmary ; and of 2,853 cases of sudden illness, 1,028 occurred within a quarter of a mile or less of the nearest hospital or infirmary (*see Appendix II., Tables (E) and (F)*).

By Sir William Collins.

49. Or infirmary ?—Or infirmary.

50. Then you are using an infirmary as if it were equally available for such cases as hospitals ?—I am taking the infirmaries which we know to be available ; I am only taking them from ascertained facts. If a case went to an infirmary within a quarter of a mile it is so shown.

51. I thought you were speaking here of available service—not that it was actually availed of ?—Yes, these figures are taken from the actual accidents that occurred and the way in which they were handled. It would not be necessary to deal with them in any other way, because if I show you on the map the position of the infirmaries and of the ambulances, you can work out for yourself with a pair of compasses how far the furthest possible case could be from either an infirmary or an ambulance.

52. I thought you were giving us the figures of 8,829 cases, or 81 per cent., where an ambulance was available within less than half-a-mile ?—Yes.

53. But I thought you were going on to show us that although an ambulance was available it was not availed of ?—No, I am giving you now the distance of the hospital. Another factor is the distance of the ambulance ; this I will give you too.

By the Chairman.

54. Do these figures come from the hospitals ?—No, they come from our reports.

55. In each one of these cases does the report state the fact that that particular case was taken to a hospital or the infirmary within a quarter or half-a-mile ?—Yes.

56. It is a record of the actual case ?—Yes, we have the return.

By Sir William Collins.

57. Then now you are dealing only with cases which did eventually get to a hospital or infirmary ?—Yes, that is it. Of the 8,002 cases of accidents in the streets, I find that 4,554 actually occurred within a quarter of a mile or less of an ambulance. The other figures I gave you were cases which occurred within a certain distance of a hospital or infirmary. These are figures of the distance from an ambulance.

58. Did they go into the hospital or infirmary in an ambulance ?—I could not say that. I have figures to show how many were put in an ambulance and how many in a cab. I could not tell you how many of those 4,554 cases went in a cab and how many of them went in an ambulance, but I am coming to that point directly.

By the Chairman.

59. The point of this is to show that whatever the character of the accident was, whether the patient became

incapable of walking or of going in any other way, the accident occurred at that particular spot within that distance?—Yes, and if the case had been serious enough there was an ambulance there within a quarter of a mile or less to put it into. Then the other figures that you require are these: of the 2,853 cases of illnesses in the streets, I find that 1,811 occurred at a spot from which there was an ambulance within a quarter of a mile or less. Perhaps I had better now refer to how these various cases were taken to hospital. If you look at Return I (*Appendix II., Table (A)*), you will see that of the 8,002 cases of accidents in the streets, 2,709 only were conveyed by ambulance.

By Sir William Collins.

60. Then 1,536 walked, did they?—I am coming to that. The balance were got to hospital in some other way; that is to say, 1,684 went by cab, 1,040 were conveyed by the vehicle which caused the injury, 512 were conveyed by some passing vehicle which offered help, 85 were conveyed by tram car, 88 by barrow, 54 by omnibus, 17 by train, and 1,536 were able to walk; and 247 children, and 30 adults were carried by their friends or by the police—these statistics are for accidents.

61. So that the majority of those who went in some vehicle or other did not go by ambulance?—Only 2,709 went by ambulance out of 8,002; the others went in some other way.

62. But even the majority of those who went in some vehicle or other did not go by ambulance?—I say 2,709 went by ambulance and 5,293 went in some other way.

63. But what I wanted to get at was, deducting those who went on their feet, and taking only those who went by some vehicle or other, the majority of those did not go by ambulance?—No, certainly not. Now as regards cabs, if you look at this Return I (*Appendix II., Table (A)*), it is rather interesting. You will see that cabs were used very much in those areas where you would expect to find them very much used. Take the A Division, Whitehall, cabs were used in 101 out of 190 cases; in the B Division, where cabs are fairly numerous, they were used in 160 out of 267 cases; in the C Division, where cabs are fairly numerous, they were used in 98 out of 315 cases, and so on. But when you come down to Divisions like the Bow Division (K), which is a large Division with upwards of 35 square miles, cabs were used in only 15 out of 405 cases; or in the J Division, the Hackney Division, which is also a large Division, they were only used in 15 out of 267 cases. They were not available so they were not used—that is what it comes to. The great difficulty where cabs are available and the persons are not injured in the lower limbs and not insensible, is that they will insist on going in cabs.

64. This return, I suppose, only includes cases which have come within the purview of the police?—Yes.

65. When you speak of individuals being conveyed to a hospital or infirmary, there may be other cases conveyed to a hospital or infirmary in ambulances, or in some other way, without its coming to the knowledge of the police?—Certainly.

66. If there be a discrepancy between the hospital figures and the police figures, we may be speaking of different things?—Yes.

67. The hospitals speak of those received from all sources, while the police speak only of those which they have had to deal with?—Yes, and we can identify every one of those 10,000 or 11,000 cases; we can pick them out from the hospital returns.

68. Similarly, the hospitals receiving the cases would note the police constable's number who brings the case?—Yes. That the ambulances were not used in all these cases of accident and illness in the streets is due to various causes, such as the close proximity of the hospital—in 3,517 cases the hospital lay within less than half-a-mile of the accident—or the reluctance or refusal to be so conveyed frequently expressed by the injured person, or the attitude of the crowd, and often the nature of the injuries, sometimes by the orders given by the doctor in attendance, and no doubt also by the presence in the streets, in some Divisions, of cabs always available. These are factors to be taken into account whatever be the nature of the ambulance available. I may instance a case which was brought to my personal notice by a letter of complaint only a few weeks ago, in which, in the face of strong pressure, the constable insisted on detaining the case until the arrival of the ambulance. On the 4th of March, a man going to work on his bicycle was knocked down by a pantechnicon van. The constable on the spot, recognising that the man was seriously injured, at once

sent a messenger in a cart for a doctor, in the meantime doing what he could to make the patient comfortable, as he was qualified to render first aid. The cart brought back the doctor, who superintended the removal to hospital, but in the meantime the owner of the van, which was leaving its yard close by, had placed it at the disposal of the police constable for the immediate removal of the case to the hospital. The constable, however, declined to act before the arrival of the doctor, with the result that I received a civil but strong letter of protest based on humanitarian grounds, stating that the patient had not been taken to the hospital quick enough. I may say that I found on reference that the constable's action was quite approved of by the doctors. And similar pressure is often brought to bear by a crowd, who, seeing a person injured and a cab available, get rather excited if the constable does not at once take the injured person off to the hospital; and it is sometimes rather difficult for a constable by himself to withstand that pressure. I have seen no statistics of cases known to have suffered harm by having been improperly conveyed to hospital; I am referring to cases that have come into the hands of the police; but no doubt it sometimes happens that a case which has been taken to hospital in a cab has been rendered more difficult of treatment than if it had been detained for an ambulance. But here, of course, the difficulty of diagnosing injuries in the street has to be taken into consideration. We have had no complaints from hospitals as to the inefficiency of the hand ambulances, nor have we been informed by hospitals that in any case death or serious complications have resulted from the mode of conveyance adopted. The use of any means of transport available is not encouraged, it being obvious that the ambulance is preferable to other vehicles as a general rule. But a large proportion of street accident cases are slight, and there would be no reason in trying to insist on the employment of an ambulance for a cut head, or even a broken arm; and where an ambulance is not immediately available there is something to be said for getting a patient to hospital by the quickest means. A case where additional pain has been caused by the jolting of a van, or added risk involved in taking a patient in a cab, must be set against others in which good results have been secured by promptness in getting the patient under skilled care at the hospital. The instructions are that certain cases must not be taken in a cab. These would include cases of insensibility, cases of injury to the lower limbs, or cases in which there was reason to fear internal injury. There are of course exceptions, owing, as I have pointed out, to the difficulty of diagnosis in the street.

By the Chairman.

69. I suppose the instructions to the constables are that they must do their best under the circumstances?—Yes, but I think their medical instructors who teach them the principles of first aid say that you must never take a case of injury to the lower limbs or a case of insensibility in a cab; you must get an ambulance. I imagine that they do. I have been present at some of their lectures; I have not been present at them all, of course; but I imagine it would be a matter for them really to rub well into a constable's mind that he must never take a case of injury to the lower limbs in a cab.

By Sir William Collins.

70. Is that instruction contained in your printed rules?—I do not know. I think we leave it to the teachers of first aid.

By the Chairman.

71. Who are the instructors?—The London County Council, I think, teach a considerable number of our men, and they instruct the constable in whatever is absolutely necessary. The St. John Ambulance Association used to do it all at one time, but the London County Council have made things so very easy in that respect that we gladly avail ourselves of their services, and I think they teach the greater proportion of our men now.

By Sir William Collins.

72. Do you think that that instruction not to convey a person suffering from injury to the lower extremities to the hospital in a cab is uniformly acted upon?—I hope so. I have not had any communications to the contrary from hospitals, and I should think they ought to have let us know if any cases conveyed by the police have been improperly conveyed in a cab instead of in an ambulance.

73. Do you think there are no cases of broken legs, say, taken to hospital by the police in a cab instead of in an ambulance?—I think it is quite possible, but the hospitals

Sir Edward Henry.

ought to let us know. If a hospital wrote and said : " It is very serious—your constable brought a man to the hospital with a broken leg in a cab," we could at once take steps to see that it did not occur again. We could circulate it through the police force and have the man up and perhaps reprimand him.

74. Have you given invitations to the hospitals to make such representations ?—No ; but I should think obviously it is their duty to let us know. They know that we convey thousands of cases a year, and if they find that we convey them in a wrong way they ought, for our guidance—we are not experts—to say : " This is obviously a case which the constable should not have brought in a cab," and very likely we should take it up at once.

75. But I gather that it would not be contrary to the printed instructions given to the constable if he were to convey a man with a broken leg to the hospital in a cab ?—We do not in the Police Orders tell them anything about first aid, that is all done by the medical instructors. I cannot say that cases of broken leg have not been taken to hospital in a cab ; it is quite impossible for me to say that ; but what I think we have a right to expect is that hospitals will sound a note of warning if we are conveying cases in a way that is likely to bring about complications. They have only to write and say : " A case came to the hospital yesterday brought in a cab which ought not to be—a man suffering with a broken leg," and then we would at once take immediate steps to try and prevent it.

76. But the condemnation of the use of a cab as a matter of rapidity might depend upon what other vehicle was obtainable ?—Yes, each case would have to be gone into on its merits ; there might be no other means of getting the man there, in a very remote part ; but that could not be the case in the accident area, because, as you see from the map, the ambulances are so thickly scattered round, that it is only a question of delaying a little and you may be certain of getting one. Outside the accident area I can imagine that you might have to wait a long time, but in the accident area in Inner London that would not be possible. Whenever they are in doubt, the police are instructed to endeavour to detain the case in the street for the ambulance. Owing to the distribution of ambulances and the facilities for procuring them, they are probably more quickly available than a smaller number of horsed or motor ambulances would be in the majority of cases occurring in what may be called the accident area.

77. You put it rather problematically ?—Yes ; my own idea is that the horse ambulances would be of the greatest possible value outside the accident area, where we have not the hospitals close at hand, and where we have not such a large number of hand ambulances. It all depends, it seems to me, upon the proximity of the hospital. If you have your hospitals pretty close together inside the accident area and have a great number of hand ambulances, you could not improve much upon the system by substituting horsed ambulances ; but the moment you get out of this inner ring, then distances become great, the distance from the hospital becomes great, and it certainly would be an advantage to have horsed ambulances which would convey cases promptly to the hospital. That is my own view. I am not an expert at all, but that is a view I have formed after carefully considering maps and statistics and thinking over the matter.

78. Except for the point of the night population the City would not differ from your danger area in its character ?—Not a bit.

79. If they find that horsed ambulances are a great improvement, or if they find that rapid ambulances, we might say, so as to include motor ambulances, are a great improvement, we might consider that ?—If they find them a great improvement, it is quite valuable evidence, certainly. We have not got them, so that I am only theorising, of course. The map, a copy of which I have produced, shows at a glance that within an area approximately of $3\frac{1}{2}$ miles from Charing Cross, that being the area in which three-quarters of the accidents and cases of illness in the streets occur, there appears to be an adequate number of ambulances, and that the hospitals are within easy reach. I have given you some figures, if you look at Return No. 2 (*Appendix II., Table (C)*), which are rather interesting. I show there the number of cases that occurred within the three-mile radius, and the number that occurred between the three-mile and the four-mile radius, that is to say, the two together show you the number that occurred within the four-mile radius. Of those which were conveyed by ambulances to hospital, about something over 1,700 occurred within the four-mile radius. Of those which were conveyed by cabs, something like 1,550 occurred within the four-mile radius ; of those

which were otherwise conveyed, about 2,550 occurred within the four-mile radius. Within the four-mile radius 73 per cent. of the total number of street accidents occurred. That is of some importance. Outside the four-mile radius and more especially towards the boundary of the police district, the number of ambulances provided is very much less, and of course the hospitals are at a much greater distance. In this extensive outer area, which we may say roughly embraces 650 out of our 700 square miles, horsed or motor ambulances would be very useful, but to be fully effective they would have to be supplemented by an extensive system of street signals to ensure immediate intimation being conveyed to an ambulance station of the need for an ambulance at a given spot. According to the figures I have been able to get, the number of cases occurring in the police district outside the four-mile radius would average about 10 daily. With these data before them, it is for the authority responsible to decide what expenditure they are prepared to incur with a view to improving the arrangements in respect of these cases. I may add that a beginning has been made, the Metropolitan Asylums Board having placed motor or horsed ambulances available for police as well as for general purposes.

80. When did they do that ?—A few months ago—say about 12 months ago.

81. Are they part of their ordinary service ?—Yes, except that they are not for infectious cases, I understand.

82. When was the arrangement effected between the police and the Metropolitan Asylums Board ?—All that we have done has been to notify to the Force that these ambulances are available. We are only too glad to have them.

By the Chairman.

83. That is in the Order of the 12th June, 1906 ?—Yes ; we have made no arrangements. They have stationed their ambulances there, and told us that they are there, and I have said that I will see that they are notified to the police as widely as possible, so that they may be made use of in suitable cases.

By Sir William Collins.

84. Do they make a charge ?—Yes.

85. What is the charge ?—I think it is according to mileage, but it is about 7s. 6d., I think. Of course if we employed their ambulances we would be prepared to pay from the Police Fund.

86. Have you employed them ?—The last time I was down the Old Kent Road I was making enquiry about it there, and they told me that they could not have got one accident case to hospital without it ; at the time the snow was on the ground they did employ it, and I think we paid for it.

87. Is that the only case ?—I just happened to be down there. I have not enquired into it very much, and, as you know, it takes a long time to get all the constables to realise that there has been a new facility put in their way.

By the Chairman.

88. I suppose we shall be able to get information as to that ?—Yes ; there are only six of them, and it is in very few cases that they would be useful for our purposes. They are not wanted for the accident area ; they would be wanted more outside the accident area. One advantage of the horsed or motor ambulance service upon which stress is laid is that by its means a doctor could be brought to the patient able to attend to injuries in transit. I find that the Liverpool Hospital authorities have come to the conclusion that it is unnecessary and not always desirable to send a doctor with the ambulance. For this decision there appear to be two reasons—the cost of medical service, and the fact that often a third handling of the patient is thus necessitated. Experience in Liverpool has shown that, as a rule, by the time the ambulance wagon arrives with the doctor efficient first aid has been already rendered by the police, and the hospital authorities consider it better that there should be no further handling until the patient reaches the receiving ward of the hospital. I may perhaps quote the exact words : " In the vast majority of cases the first aid rendered by the police before even the arrival of the ambulance is all that is wanted before the case arrives at the hospital and their responsibility begins." On this point, no doubt, expert evidence will be given before the Committee. In the Metropolis, as will be seen from the returns that I put in, medical aid is obtained in a considerable proportion of cases before the patient is put on an ambulance at all,

the services of the nearest available doctor being made use of. The second advantage claimed for a horsed or motor ambulance service is speed; but hand ambulances scattered thickly over the ground are obtainable within a few minutes, and the distances to hospitals being short in most of the areas where accidents are of common occurrence, cases are probably conveyed at least as quickly on the average as they could be by a smaller number of horsed ambulances. However extensive the system of street signals might be, only a small proportion of the

annual 11,000 cases of accident and sudden illness in the street would happen close to a signal post, and so the constable or his messenger would have to go to the nearest signal post available to send his message, and he might conceivably have to wait there for the arrival of the ambulance in order to conduct it to the spot. Having in view the greater distance from which it is summoned, it is possible that the saving of time in the heart of London would not be very substantial.

SECOND DAY.

Tuesday, 28th May, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. The EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Sir EDWARD HENRY, K.C.V.O., C.S.I., recalled and further examined.

By the Chairman.

89. With regard to question No. 63, you wish to make a correction, I understand?—The Returns (*Appendix II.*) which I have put in show that during the year 1906 8,002 persons injured by street accidents were taken to the various hospitals, and in addition 2,853 others suffering from illness, making a total of 10,855, of which the police had cognizance. I may take this opportunity of correcting the reply given by me in answer to question 63. I then gave it as my impression that, taking only those conveyed to hospital by some form of vehicle, the majority did not go by ambulance. But I find that the percentage is slightly in favour of the ambulance. The actual figures show that at least 4,425—there may have been some cases taken to hospital in street ambulances which are not police ambulances strictly speaking, and we have not got a record of them—but at any rate we know that 4,425, or 41 per cent., were taken to hospital on ambulances by the police (*Appendix II., Tables (A) and (B)*).

By Sir William Collins.

90. You are now dealing with accidents and illness?—Yes.

91. My question had relation to your Return No. 1, of accidents only. I had only had an opportunity of looking at that at the moment?—Quite so. I daresay it will come out the same; it can be easily worked out. However, it is not of any importance whatever. And 2,267, or an additional 21 per cent. were able to walk or were carried by their friends or by the police. This accounts for 62 per cent. The remaining 38 per cent. were taken to hospital by some other conveyance than an ambulance. I find that 13 per cent. of the accident cases were at once taken by the vehicle causing the injury. Some 19 per cent. of the total cases were taken by cabs, many persons injured insisting upon this mode of conveyance; and another 6 per cent. were taken by passing vehicles, the drivers of which proffered help. In considering these figures it should be remembered that many cases of injury or illness thus taken to hospital are comparatively trivial. Thus it appears that of the total number of cases taken to hospital only 4,999, or 46 per cent. were detained for treatment. (*Appendix II., Tables (C) and (D)*). Of the total number of cases conveyed otherwise than by ambulance only 1,909, or 17 per cent. of the total for the year, were deemed sufficiently ill or injured to be detained. It is worth while noticing that of the 4,425 cases conveyed by ambulance 3,090, or nearly three out of four, were detained for treatment; whereas, of the 6,430 cases otherwise conveyed, only 1,909, or rather less than one in three, were detained, a fact which appears to indicate that ambulances, on the whole, were used in the more serious cases. The accident areas may be broadly defined as portions of that area which lies within a radius of four miles from Charing Cross: that is to say, an area of about 50 square miles.

By the Chairman.

92. Is what you are going to say now more or less in correction of what you said before?—No.

93. Or in addition to it?—It is an amplification—that is all. I understand that you wanted some little amplification of it, and that is why I put this in. The Divisions where most accidents occur are those which include the City of Westminster, and the Boroughs of Holborn, Shore-ditch, Hoxton, Whitechapel, Southwark, and Lambeth, and the figures given for the Divisions would not be instructive unless the area of each Division is known; so I put in a Return giving those (*handing in the same, which are given in Appendix II., Col. 2*). Then of the 10,855 cases taken by the police to hospital during 1906, 8,020, or about three out of four, occurred within four miles of Charing Cross, and 6,095 within three miles; it is more than one in two, but it is not so much more that it is worth going into. A reference to the map and the Returns will show that the location and number of hospitals and infirmaries receiving accident cases within this three mile and this four mile circle are not unsatisfactory. The Returns also show that of the total cases in 1906 5,100, or about 47 per cent., occurred within less than half-a-mile, and 7,786 cases, or 72 per cent., within a mile of a hospital. I put in a Return (A) showing the hospitals, and a Return (B) showing the infirmaries which receive cases of injury or sudden illness occurring in the streets (*handing in the same, which are printed in Appendix V.*). I have separately shown the hospitals inside and outside the boundary of the Administrative County of London. The infirmaries are not so freely available as the hospitals, since there must be some condition of urgency to secure admission for a non-destitute case; but the gravity of the injury or ailment would in itself constitute urgency, and such cases would be rarely refused. The total number of cases outside the four mile circle, that is to say, in the remaining 650 square miles of the Metropolitan Police District, was 2,835, or less than 10 a day—about eight a day, I should think. The Returns (*Appendix II.*) further show that of the same 10,855 cases—I have given you the distance from a hospital, and I come now to the distance from an ambulance—a wheeled litter was available within a quarter of a mile in 6,365, or nearly 60 per cent. of the cases, and within half a mile in 8,829, or 81 per cent., while there was one within a mile in 10,390 cases, or 96 per cent. It does not, of course, follow that the ambulance was actually used. I have already given the percentage actually conveyed by ambulance, and suggested some reasons why this conveyance was not invariably used. Taking the figures for the four mile radius, that is to say, 8,020 cases conveyed to hospital, I find that 2,954 cases were conveyed by ambulance, 1943 by cab, and that 3,123 walked or were otherwise conveyed. It is interesting to note that of the cases occurring within the four mile circle, 1,943, or nearly one in four, were conveyed in a cab; whereas in the area outside this limit, which accounts for

Sir Edward Henry.

2,835 cases, only 243, or one in 9, were so conveyed, the explanation probably being that in the outer area cabs are not easily obtained, whereas in the inner area they are always available, while distances to hospital are short and there are probably more people who prefer that mode of conveyance.

94. Is there anything which shows with regard to more distant areas what kind of conveyance, in the absence of cabs, is chiefly used, whether ambulances are used or to what extent they are used?—In the outer area I can give you the figures for those, of course—you have them; you can work them out from the Return quite well. Within the smaller three mile radial area 2,034 cases were conveyed by ambulance, 1,669 by cab, while 2,392 walked or were otherwise conveyed. This is out of a total of 6,095.

95. That, of course, covers that part of the Metropolis where cabs are most available?—That is so. The percentage conveyed by ambulance in this smaller inner area was a trifle less, and by cab slightly greater than in the four-mile circle, the reason probably being that already given—the greater number of cabs in the innermost circle. You quite understand that I am generalising from the figures?

96. Yes.—I may be quite wrong. The Returns also indicate that the great proportion of cases in which the persons walked or were carried to hospital occurred, as might be expected, within the three-mile radius where most of the hospitals are situated; consequently they would be at a short distance. The principal use of other vehicles would therefore be in the outlying districts. It struck me that a comparison might be made between the E, or Bow Street Division, and the City of London, as regards the promptness with which street casualties could be conveyed to hospital. The area of each is about the same—one square mile. Each area is very roughly an irregular rectangle, the City area having its greater length East and West, and the Bow Street Division its greater length North and South, and these two areas run side by side. The City has one hospital, St. Bartholomew's, served by an electric motor ambulance service worked through 52 signal boxes at suitable places; and, outside the City proper but within some little distance, it has Guy's Hospital and the London Hospital. Bow Street Division has 15 hand ambulances, two infirmaries and three hospitals within its boundary, and four more hospitals close to its boundary. The hospitals within its boundary are King's College Hospital, near the Strand; Charing Cross Hospital, in Agar Street, Strand; and the Homeopathic Hospital in Great Ormond Street; and, close to its boundary you have University College Hospital in Gower Street; the Royal Free Hospital in Gray's Inn Road; the Middlesex Hospital in Mortimer Street—that is near its western boundary; and the French Hospital in Shaftesbury Avenue, close to the boundary, available for cases. I think it probable that on the average a street casualty occurring in the E Division might be expected to reach a hospital sooner than a street casualty occurring in the City, where, in addition to there being fewer hospitals, a motor ambulance must necessarily be seriously retarded by the congested traffic of narrow streets, and might, on account of the facility of signal boxes, be sent for in cases where a hand ambulance would be nearer. You see, as they have got the system they must use it, and I should think myself that there would be some risk of their not seeking the nearest street ambulance but going to a signal box and getting this improved method of conveyance.

By Sir William Collins.

97. In making that comparison, it would be necessary to bear in mind that there is only one motor ambulance used in the City?—Yes, but they would all three have to be stationed at the same place unless they have a fresh system of signals. Then they would have to have a fresh system of signals connecting up another station.

98. Is not that part of their proposal?—I do not know.

By the Chairman.

99. Is there only one station at present?—There is only one station at present, and, as a matter of fact, St. Bartholomew's is not well placed, because it is at the western extremity of the City area.

By Sir William Collins.

100. When you speak of the motor ambulance service in the City, you mean by that the one ambulance they have now got?—Yes, the one they have got. It has been suggested that the ambulances belonging to various Boards of Guardians might be used for street casualties, but perhaps this is not practicable, if only for the

reason that they are not kept ready horsed, and so would not be quickly available. And it is conceivable also that questions of expense or of pauperism might at some time arise. Except on the latter ground there is less reason why the guardians' ambulances should not supplement if necessary the Metropolitan Asylums Board service for the removal of sick poor from their homes to hospitals. In my view such removals can more properly be done by an authority like the Metropolitan Asylums Board than by the police. I would therefore place the removal of all cases of sickness, infectious or non-infectious, from home to hospital in the hands of one authority.

By the Chairman.

101. Other than the police?—Yes. To deal with street casualties appears to be a natural obligation upon the police. They must of necessity be entrusted with the duty of dealing with street casualties, because they are always on the spot and available therefore for rendering first aid with the least possible delay. But they must work under their own Departmental superiors, and they could not be made subject to any other authority without the risk of friction. An arrangement such as that come to with the Metropolitan Asylums Board is quite satisfactory, for they work their own service under conditions which preclude any likelihood of friction. The police render first aid when necessary and summon their ambulance, and when the patient has been made over, the police are only responsible for communicating with the friends and with the receiving hospital. It appears to me that within the four-mile radius area what is needed to improve the present system are more wheeled hand litters, and that the local authorities should arrange for street casualties to be dealt with at all infirmaries, a charge, if this is deemed necessary, being made upon the Police Fund. In the outer area of 650 square miles, where such casualties are, as I have already pointed out, less than 10 a day, and where probably not more than five a day are sufficiently serious to be detained in hospital, it is not easy to suggest a system which could be provided at a cost at all commensurate with the amount of relief it would afford. It would not, it seems to me, be practicable to combine here other services with the ambulance service, as in Liverpool. In Liverpool it is claimed that the patrol wagon, the fire brigade, the prison van, and the ambulance wagon, are served by the same horses; but obviously the establishment must be large enough for simultaneous demands under these various heads being made on it. In London, the prison van horses have a full daily task; the fire brigade is a distinct service, independently housed and administered; and we do not use the patrol wagons, nor do we require them.

102. What is meant exactly by "patrol wagon"?—They keep at certain stations a wagon with horses available, which could be sent out either to bring in an accident case or to carry out fresh constables in case of a riot or a row, or to bring in riotous or drunken prisoners. We tried it to some extent some years ago, as I have already told you, and could not get enough work for it. It would be useful at times, but the cost would be too great.

103. Is that part of the Liverpool system?—Yes; they have, I understand, worked it in the way I have described; I spoke to the Chief Constable, and he told me all about it, but I have not any personal accurate knowledge of it at all. I have been to Liverpool, and I went round, but I am not qualified to speak with any precision. There would be difficulty in utilising the fire alarm posts, since their wires communicate, not with police stations, but with fire stations. This would cause some delay. The establishment of a police horse ambulance service at fire stations, even if there were accommodation there for them, which, of course, is very doubtful, or at hospitals, would have drawbacks. The police detailed for duty there would not have sufficient occupation between the calls; and at Liverpool it has been found, I am informed, that there is difficulty in exercising supervision where the police are kept at hospitals; and I believe they are going to change their system. There is only one other matter I can think of, to which I may be expected to refer, and that is to the form of litter used by the police. As the Committee are aware, action has been confined to the development of the ambulance upon existing lines, to the making of such additions to the number of such ambulances as may be required to meet the growing needs of London, and to making such structural improvements in the existing type of wheeled litter as may seem required.

104. Have you any view as to the importance or necessity of increasing the number of ambulances?—Yes, I have increased them a good deal, and I am going on increasing them.

Sir Edward Henry.

105. Do you think they want a very large addition?—I daresay 30 or 40 more could be placed out with advantage. I have a list and I am gradually working up to it.

106. We have already got the figures, I think, of the pace at which they have grown?—Yes.

By Sir William Collins.

107. Do I correctly understand that your experience is limited to London?—As regards ambulances, yes, entirely.

108. You have, perhaps, studied some of the provincial or foreign systems?—I have read a little; I have no real knowledge.

109. Have you been interested in the enquiry instituted by the London County Council?—I did not know that there had been any special enquiry instituted.

110. Have you seen the report of the London County Council of December 5th, 1902?—Yes.

111. As regards the authority, that has been the subject of inquiry by Parliament in years past, has it not, as regards both the police and the fire brigade, and the relationship between the two?—I do not know; I am not well up in that part of the history.

112. You do not remember that it was suggested about 1861, I think, that the police and the fire brigade authority should be one and the same?—No; it is long before my time; I do not know about it.

113. Do you know that the County Council sought powers in a Bill of 1906 to itself establish a service for ambulances?—Yes; they proposed having two ambulances to start with, one at St. Thomas' Hospital and the other at Charing Cross, I think.

114. The County Council, I think, before they embarked upon that enquiry in 1901, communicated with your predecessor at Scotland Yard, Sir Edward Bradford?—I do not know; I daresay they did.

115. I have before me a letter which was sent from Scotland Yard on the 23rd July, 1901, in reply to an application from the London County Council, stating that the Commissioner would be pleased to place his information before the Committee of the Council which was then enquiring into the matter, and alluding to the three horsed ambulances to which you have directed our attention, and concluded "It may be added that these ambulances are not very often used, and so far as police experience goes, the necessity for horsed ambulances has not been established"—Those are Sir Edward Bradford's views.

116. Do I rightly understand that that is still the view of the Commissioner of Police?—I thought we were dealing with street accidents. They were not used for street accidents.

117. But "the necessity for horsed ambulances has not been established"?—I may say that we are at cross purposes. I thought we were dealing with street accidents. I have just said that I thought for the removal of the sick poor from their homes to hospitals it would be a very good thing to have a system under a separate authority, and those ambulances to which you are referring were used solely for that purpose.

118. In the *précis* that you have favoured the Committee with, I think you state the history of these horsed ambulances?—Yes.

119. And indicated that originally they were intended for difficult cases of illness or accident requiring hospital treatment?—They were not used for accidents, because in the meantime the hand ambulances had been provided, and they were not used because they were not needed, I suppose.

120. Then it was part of their original intention that they should be so used?—That is quite possible.

121. I take it from your own statement?—Yes, but they were not used for that; that is the main point.

122. Did you see a memorandum prepared by the Home Office, at the time of the inquiry by the Committee of the House of Lords into the General Powers Bill of the London County Council last Session?—Yes, I did; I should have to refresh my memory though if you want to ask me any questions upon it.

123. At the close of the memorandum I see allusion is again made to these three horsed ambulances; they say "The police possess three horsed ambulances which, when not otherwise required, are available for this purpose, and are in constant use"—They are not in constant use for that purpose.

124. Are they in constant use?—No.

125. For any purpose?—No, because they have been condemned. I thought I explained that.

By the Chairman.

126. Yes.—So that they are not in constant use.

By Sir William Collins.

127. I understand from Sir Edward Bradford that in 1901 they were not very often used, and I understand that now in 1907 they are obsolete, and condemned?—Yes.

128. Were they at any time in constant use?—They were in use, of course.

129. For what purpose?—For carrying the sick from their homes to hospitals, and they paid for the use of them.

130. Were they ever put to the use for which I understand they were originally intended, for the purposes of street accidents?—I should think hardly ever.

131. The application of the London County Council to Parliament upon which this memorandum was based, had relation exclusively to dealing with cases of street casualties, had it not?—Yes.

132. You put in some Regulations (*Appendix III.*) under which the police now act in regard to street accidents?—Yes.

133. May I ask what was the date of those; since when have they been in that form?—This is taken from the 1900 edition, I am told.

134. The copy I have is dated the 12th June, 1906.—That particular one is; that is after I had had that conversation with the chairman of the ambulance branch of the Metropolitan Asylums Board. On that I issued that Order of the 12th June, 1906, merely notifying to the police that these particular ambulances were available.

135. Take Article No. 15; that, I think, has been amplified, has it not, from the form in which it was a few years ago?—I really could not say; it is cut out. We are continually modifying General Orders you know. As I have just explained, when the need arises, we modify them.

136. Have you recently endeavoured to obtain further sites for litters, and so forth?—Yes.

137. Have you addressed a letter in the last year or so to some of the local authorities in regard to that question?—Yes, the Receiver has been in correspondence with them, I think.

138. For instance, I have here some minutes of the Borough Council of Bermondsey. I see they state that on the 20th December, 1906, a letter was directed to them by the Receiver for the Metropolitan Police District, informing them "that with a view to making further provision for dealing with cases of accident in the street, the Commissioner of Police desires to increase the number of police ambulances located at fixed spots"—Yes; I told you the difficulty I had at Wellington Square, Chelsea.

139. The policy, I understand, is to increase the present system—that is to say, of hand litters, rather than to change it as regards either horse ambulances or motor ambulances?—Yes, that is the policy.

140. On what materials are these statistical tables made up?—On the information supplied by the Divisions. They have an Occurrence Book, and all particulars are in it; and from that I suppose they have extracted these materials.

141. Is there a printed form upon which the individual constable would make such Returns as would enable you to construct these statistics?—He would make a report to the station, which would then be entered into the Occurrence Book, and from the Occurrence Book it would be worked out. But I have got a couple of superintendents coming who will explain to you exactly how their Returns are made out, and that probably would be more satisfactory to you.

142. Now, as regards an improved use of the telephone for the purpose of obtaining an ambulance, have you any suggestion to make with regard to that? Do you think the telephone is as much utilised as it might be for the purpose of summoning an ambulance?—In the inner area I have given figures to show that the ambulances are all close at hand; therefore there is no necessity for the telephone.

143. Have you made any observations with a view to ascertain what is the time which intervenes between a street accident and the arrival of the injured person at the hospital?—No, I have not made any enquiries.

144. It would probably be desirable to abbreviate that interval as much as possible?—Quite so.

Sir Edward Henry.

145. By what method is the ambulance at present fetched to the site of the accident?—A constable can send someone for it, or, if he sees a cab he can tell the cabman to go and fetch it. That is the only way in which it can be done unless he leaves the ease. He cannot very well always leave the case; he might blow his whistle and get another constable and send him off.

146. That is the present mode of summoning an ambulance?—Yes. Whatever system you have you must have something like that, because unless you have a street call immediately where the accident occurs, somebody must get to the signal-box and signal for it, or the constable must send someone for the ambulance, or he must send for a cab and tell the cabman to go for the ambulance.

147. But up to the present time some person or other, whether an official or not, has to go, on his feet or by some conveyance, to the place where the ambulance is?—Yes, somebody has to go and fetch the ambulance, that is certain.

148. How does the ambulance come back?—It is brought back by the person who goes to fetch it. It is very easily wheeled.

149. At a walking or perhaps a running pace?—I do not know; I cannot say that I have seen one actually fetched.

150. You said, I think, that you were unable to refer to statistics, or at any rate cases of untoward results arising to injured persons in consequence of the present method of removal?—Yes.

151. Unless a surgeon were to have seen the case at the original site of the accident and again at the arrival at hospital, it would be a great difficulty, would it not, to institute a retrospective diagnosis as to the effect of the mode of removal?—I think you are a much better authority than I am on that; I am afraid I have no medical knowledge at all.

152. Have there been any cases where a coroner's enquiry has resulted in a rider to the verdict dealing with the particular mode of conveyance of the injured person?—I cannot say; I cannot remember. I daresay there may have been.

153. I have before me a cutting from a paper—but I am afraid at the moment I do not know its date—in which it is stated: "It transpired at an inquest at Lambeth yesterday, on George Cornish, carman, that whilst in a dying condition he was carried four miles on a police hand ambulance before a hospital was reached. The jury, in returning a verdict of 'Death from natural causes,' commented on the need for horsed ambulances for London." Has that particular case come before you?—No, I cannot say.

154. Have you made any enquiry as to such criticisms of the present method?—No, but as he had to go four miles to a hospital it must have been one of those cases outside the four-mile radius, and, as I have already said, I think, if finances permitted, a horse ambulance system there might be very useful.

155. The inquest was at Lambeth?—I do not know how he can have gone four miles.

156. Perhaps you can remember that Highgate tram smash in June last year?—Yes.

157. I noticed, at the time, a statement made in the Press that "The ambulances were quite insufficient to cope with the demand, and ambulances were made out of shutters and pieces of match boarding"?—If you have a large number of people simultaneously injured, under any system, you would find your ambulances were insufficient. You see one ambulance will only convey a certain number of people, and you cannot keep an indefinite number of ambulances on the chance of some catastrophe like that happening. You would always have that difficulty.

158. I do not know whether the occurrence on Whit Monday is too recent. Did you notice that case in which a horsed ambulance itself was the cause of injury, and, in one case, of death?—Yes.

159. Have you made any enquiries as to that case?—Enquiry has been made. I have not seen the papers yet.

160. It was not a police ambulance?—No, a St. John's ambulance.

161. You do not know what was the cause of it?—The horses got frightened, I believe, and bolted.

162. Were they horses usually employed for that purpose?—I do not know; I should think so.

163. Have you any suggestion, assuming that a more rapid system of ambulances was desirable, as to the relative advantage of horsed ambulances or of motor ambulances?

—I have no doubt that in time the motor ambulances will be preferable to the horse ambulances, but I am not sure that they are at present. I am only judging from my own experience.

164. As being more under control, do you mean?—Yes; at present, quite unexpectedly, as we know, a motor-car will not work; and that would be very unsatisfactory in the case of an ambulance. But they are improving every day, and I have no doubt that in time that disability will be removed.

165. I noticed a curious case of a report by Dr. Dudfield, of February 1st, 1906, to the Kensington Borough Council, of a case apparently of parturition coming on in the street, in which it is stated "The case was that of a woman taken in labour and confined in an electric tramcar. The medical practitioner called in, and constables, carmen and others, scoured the district in search for a four-wheel cab to convey the poor woman and her child to a lying-in hospital, but failed to get anyone to come to her assistance. On a bitterly cold morning, and for more than two hours (6.30 to 9 a.m.), the sufferer lay in the car, in great distress, and exposed to the gaze of the passers-by. 'The position altogether' is said to have been 'too terrible to describe.'" Do you know anything about that case?—I do not know about that case at all.

166. Have you any experience of difficulty in admitting injured persons conveyed by the police to a hospital, to a particular hospital, because of there being no vacant beds?—Yes, I understand it sometimes happens. I would not like to speak at all positively, because I have not got figures. How often it happens I could not say, but I have heard of cases.

167. Would the linking up of hospitals by telephone with the Ambulance Authority, whatever it might be, be, in your opinion, useful to prevent such calamities?—Yes, I should think that would be a very good thing.

168. Have you heard of any cases in which it has been alleged that constables have received fees or refreshment to induce them to take accidents to particular hospitals?—Of late a great many accusations, most of which, I think, have been quite unfounded, have been made against the police, but I have never heard that particular one.

169. You think, at any rate at the present time, there is no truth in it?—I think that the police, as a body of men, are just as humane as any other section of the community, and I cannot conceive that a constable would be so degraded as to try to make money out of a suffering fellow-creature lying in the street. I do not believe it for a moment; I think too well of them.

170. I did not know that the suggestion, which I have heard made, went to the length that you seem to assume. Is it, or is it not, the case, so far as you have been able to ascertain, that constables taking injured persons to hospitals ever receive refreshments or a fee?—All I can say is that if we heard of such a case the man would not be a constable long.

171. I thought that would be your answer.

By the Chairman.

172. You have not heard of it?—I have not heard of it.

By Sir William Collins.

173. As regards the service instituted by the Metropolitan Asylums Board lately, do you know the resolution under which that new departure was made?—No.

174. I understand it was in November, 1903: "That, in the opinion of the Managers, it is desirable and practicable to extend the operations of their ambulance service so as to include the transport of medical, surgical, and mental cases, for which application may from time to time be made by any authority or person within the Metropolis; provided that such extension of the ambulance service shall not be held to include the removal of cases of street accident, nor of patients to and from the several lunatic asylums under the control of the London County Council, unless by special sanction of the Ambulance Committee, or, in emergency, of the Chairman of that Committee, or the Clerk to the Board. That, upon the necessary legal authority being obtained for the Managers by the Local Government Board, the work be immediately undertaken, and a charge of 7s. 6d. made in respect of each removal, and, in addition, a mileage of 1s. 6d. beyond the boundary of the Metropolis." Apparently the application, therefore, was not to be to street accidents, and in every case a charge of 7s. 6d. should be made?—Yes.

Sir Edward Henry.

175. So that that new departure of the Metropolitan Asylums Board hardly touches the question of an ambulance service for street accidents?—As I say, whenever we want them we can get them. They have only six; but if ever we want one of those six horsed ambulances for an accident case we can get it.

176. On how many occasions have you required it?—I do not know. But it is a new thing, you know. It will be more and more used. It takes a long time for men to know of new conveniences which are placed within their reach.

177. Again alluding to the statistical tables (*Appendix II.*) which you have been so good as to put in, can you tell us at all what proportion of cases of street accident or of illness taken to hospital are conveyed thither by the police?—I only know of the cases which the police convey. If a man was knocked down in the street and was taken by his friends to hospital, I would not necessarily know of it at all.

178. Could you give us any means of ascertaining what proportion of the total number the figures that you dealt with represent?—You mean what proportion of the total number of cases of accident and illness in the streets those 10,855 represent?

179. Yes?—No, I could not.

180. In regard to that Return No. 1 (*Appendix II., Table (A)*) that you put in, dealing with the accident cases only, I understand that of the 8,002 cases 1,536 walked to the hospital or infirmary is that so?—Yes, that is according to the Return.

181. And 2,709 were conveyed by ambulances?—Yes.

182. And by various modes of vehicular conveyance other than ambulances, I make it 3,480; that is, adding together columns 5, 6, 7, 8, 9, 10 and 11?—I suppose that is right. It looks right.

183. Have you seen the figures collected by the Committee of the County Council in their Return dealing with a similar question?—No. At least, if I have I do not remember them.

184. On the last page, page 34 of their Report (*handing the same to the Witness*), taking for a period of four weeks the experience of Poplar, St. Bartholomew's, the Royal Free, Guy's, the Great Northern Central, the London, King's College, Westminster, St. Thomas's and Charing Cross Hospitals, of 2,000 cases—1,006 walked in, 642 were brought in by cabs and carts, 302 by ambulances, and 50 otherwise?—Yes.

185. That would show a greater relative proportion taken by cabs and carts as against ambulances than your figures, would it not?—Yes.

186. These figures would probably include cases taken to hospital otherwise than by the police?—I do not know. I could not say about these Returns, because I have not studied them.

187. And you see below that table, in the case of St. Bartholomew's and Guy's Hospitals, there again the proportion taken by vehicles other than ambulances appears relatively larger than the figure you have put in?—You see at St. Bartholomew's, where they have such facilities, so many hand ambulances and all that, only 80 out of 349 were taken by ambulance.

188. And 91 by cab?—Yes; and 141 by cabs and carts.

189. Cabs 91, and the rest by carts, vans, &c. You see below it is set out?—Yes.

190. The use of cabs, as you point out, largely depends upon the locality being one where cabs are obtainable?—Yes, I suppose so; but I do not know how you would apply that argument to Guy's. There your cabs and carts must be principally carts. You have not got so many cabs down at Guy's on the other side of London Bridge.

191. You see the table underneath sets out, Guy's 66 by cab?—Yes, 66 only; the rest by other vehicles.

192. In the case of accident, that is, 66?—Yes.

193. And 66 also in the case of illness?—Yes.

194. I notice that in No. 1 of the Regulations (*Appendix III., (C.)*) which you supply to the police, you state, "Where necessary, expenses for cab hire will be allowed"?—Yes.

195. Do you think that tends to suggest that a cab should be used?—It is intended to suggest that they should use a cab to send for an ambulance.

196. Not for removal?—In certain cases of injured persons, yes; because, as I have already said, the doctor who is called in in such a large proportion of these cases sometimes says to the constable, "Take the man off in a cab." In 2,300 cases where they called in the nearest doctor on the spot, the constable acts on his instructions.

If the doctor says, "Take him off in a cab, he has only a broken collar-bone," the constable takes him in a cab, and the cab hire is allowed. That often covers a case in which a constable sees a cab, and says to the cabman, "Go and fetch an ambulance," and pays him for it.

197. Do you think that in the case of a fractured collar-bone the doctor would advise a cab as against an ambulance?—It would depend very much, I should think, upon whether he had long to wait or not. I should think a good deal depends upon the patient. The patient might say, "I will not go in an ambulance; I would like to go in a cab." The police have no control over a patient if the patient says, "I want to go in a cab."

198. This Regulation No. 1 (*Appendix III., (C.)*) reads: "In all cases of accident, or illness in the streets, the police are to render all the assistance in their power by sending for medical aid (in the interval loosening the necktie and collar, raising the head, by which breathing is made easier), and, where necessary, to the police station for the wheeled ambulance or stretcher to remove the sufferers to the nearest hospital, unless there be some special reason for taking them to another hospital. Where necessary expenses for cab hire will be allowed." Do I rightly understand you to suggest that the cab is there introduced only for the purpose of summoning the ambulance?—I could not say why it was introduced. But the way I should read it would be as I said. I did not formulate that direction; it was done many years ago; but the way I should read it, and the way I should interpret it now, would be that if it was ever necessary to use a cab the cab hire would be provided.

By the Chairman.

199. Whether for taking the patient to the hospital or for sending for an ambulance?—Yes; as I say, in many instances the doctor says: "Take him off in a cab."

By Sir William Collins.

200. I only wanted to put it to you whether the fact of the cab appearing in that first regulation may not raise a presumption, in the mind of the person to whom the instruction is given, that the cab is utilisable for such purposes?—I think not, because they receive special instructions from qualified men, who tell them that they must not use cabs in certain instances. If their instruction is deficient, then perhaps they go wrong; but if they are properly instructed they would know how to read that direction.

By the Chairman.

201. I will just ask you one question about signalling. I do not quite understand whether you contemplate making more use of the telephone for this purpose; or do you think the messenger system, as one may call it, will always be the most practicable?—It is very difficult to construct a new system. I have only been concerned with improving an old system; but I quite see that in the outer area, where hospitals are at a considerable distance, a hand-wheeled ambulance is too slow a mode of conveyance sometimes. But then, as I have pointed out, the number of serious cases which occur in that outer area would only be about half-a-dozen a day, and you have to consider ways and means.

202. But taking it in the outer area, supposing you have a system of horse ambulances available there, I suppose you must have both your ambulance and your horse ready or else it is no use at all?—Yes, they must be ready day and night.

203. Then, as you say, the question of cost and so forth comes in, and it is a question whether the cost is justifiable if and where other means might also be available?—Yes.

204. Taking some outlying districts in Kent or in Middlesex or even in Hertfordshire, if you had an efficient system of horsed ambulances, have you thought out at all how it could be organised, where they could be stationed, or how they could be served?—No, I have not. It would be a very big scheme indeed.

205. If it was to cover the whole?—Yes.

206. But, of course, the police area covers a great deal of what is pure and simple country district?—Yes, it is roughly a circle with a radius of 15 miles, a little over 15 miles. That gives you an actual area of 699 square miles, I think it is, to be precise—700 square miles.

207. On the other hand, there are some portions of the police area lying outside London, where the population is tolerably thick and where there must be a considerable number of accidents?—Yes, when you get a borough like Croydon and West Ham.

Sir Edward Henry.

208. Would you say that in the case of a borough like Croydon or West Ham there is something to be said for horsed ambulances there?—I should have to examine the figures of the accidents and see whether they could be located to a particular point, and the distance of that point from a hospital, and whether a hand ambulance would be too slow a means of getting them there. I should think in Croydon they would all be rather close to a hospital, so far as I know it. I have only been out there inspecting. I think that the worst served portion is Kentish Town, Somers Town, and all round there; I think that is badly served at present; because you have available only the Great Northern Central Hospital and that hospital to the east there.

By Sir William Collins.

209. The Metropolitan?—Yes, I think it is the Metropolitan, but at any rate, I think, cases from Kentish Town and Somers Town might be a mile, a mile and a quarter, or a mile and a half from a hospital, and that is rather far.

By the Chairman.

210. Then it comes to this, does it not, rather: that the police district is so large that some parts of it might require a different mode of treatment?—Yes, that is so. The conditions vary, of course, very much. For instance, if you take the K Division out there by the East and West India Docks, and the Albert Docks, a great many accidents occur in the docks. I know nothing about the cases there and the facility they are dealt with by the dock police, who have their own ambulances. All I know about are the accidents which occur on the way to the docks.

211. I only wanted to bring out what a variety of circumstances there are; because, of course, the accidents in the docks, I suppose, are probably more numerous than in any other part in the same area?—There are a great many instances in the docks. If the docks were at all busy—unfortunately, they are not at all busy now—there would be a great many accidents.

By Sir William Collins.

212. Have you given us anywhere the actual number of litters and ambulances now under the police?—Yes.

213. What was the total number?—I think, 349, but probably there are rather more now.

214. I see in the Memorandum of 1906, which was put in before the Parliamentary Committee, it was 240 litters at police stations and 40 similar ambulances with appliances;

that is 280. They have been increased since then, have they?—Yes, and gradually are being increased from time to time. There are some now waiting to be put out, not included in the total. The difficulty of getting sites causes much correspondence.

By the Chairman.

215. It is 346?—Yes, roughly; but now there are two or three more put out since then. There is that Wellington Square difficulty to be faced.

By Sir William Collins.

216. Might I ask you also, have you any suggestions to make as to co-ordinating the voluntary existing services with the present police method, or are you satisfied as regards the existing relations?—We never have any difficulty. There is the ambulance service—you mean the Bischoffsheim service?

217. And the St. John's, and the Volunteer Medical Staff Corps?—We have only got to apply to them; they are always only too anxious to assist. We go to them at once as a matter of course. We use them just as we use our own ambulance. They are absolutely at our disposal.

218. As stress is laid in this memorandum upon the co-ordination of existing services, I wondered whether you would make any suggestion with regard to it?—We have never experienced any difficulty whatever in obtaining their ambulances.

By the Chairman.

219. There is no clashing?—None whatever; on the contrary, there is the greatest desire on the part of all these associations to render their services as freely as possible. We have only to go to them and they assist us. Even on the occasions of functions in the streets, when the King goes, perhaps, to the City, or on some other public occasion, they all come out and are posted at the place where we require them to be posted, so that in case of any casualties occurring they may be able to deal with them.

220. In case of any complication arising on the borderland between the Metropolitan Police and the City, do any difficulties arise?—No.

221. You act together?—Yes, I am sure they would take our ambulances; or we would take theirs at once. There is no friction at all. In case of rendering help to any person stricken down like that, there never could be any question of friction.

Superintendent THOMAS COLE called in and examined.

By the Chairman.

222. You are Superintendent of the E Division of the Metropolitan Police?—Yes.

223. Will you tell us what the boundaries of your Division are?—It is bounded on the south by the River Thames from the Temple Pier to Charing Cross Railway Bridge; on the west by Northumberland Avenue, Trafalgar Square, St. Martin's Lane, High Street, Bloomsbury; thence along New Oxford Street and through Bury Street, Montague Street, Russell Square, Woburn Square, Gordon Square and Gordon Street to the Euston Road. My boundary on the north is the Euston Road as far as King's Cross, then east through Gray's Inn Road as far as Elm Street; then it runs through Elm Street and Mount Pleasant to Farringdon Road, and down Farringdon Road to Charterhouse Street.

224. And there it touches the City boundary?—Yes, there it touches the City boundary, and then comes back along Holborn to Holborn Bars, and then follows the City boundary right away through to the Temple Pier.

225. Your Division comprises about a square mile?—Yes.

226. How many hospitals are there in the area?—There are three hospitals which take in accidents, Charing Cross, King's College, and the Homœopathic.

227. And how many infirmaries?—There are two infirmaries, one in Endell Street, and the other by Lincoln's Inn Fields, the former belonging to the Bloomsbury Union and the latter to the Strand Union.

228. Do they take in accidents?—Yes.

229. How many ambulances are there within your area?—There are 13 ambulances.

230. How many belong to the Police?—Nine belong to the Police, and there are two at hospitals and two of the Bischoffsheim service.

231. Then there are others near the boundary?—Yes, there are five others near the boundary.

232. Are all those ambulances available in case of emergency?—Yes, every one of them.

233. What would a constable do in case of accident; would he send for the nearest Police ambulance or for one of the others?—He sends for the nearest, whichever it may be, always; those are his instructions.

234. And that is what he does?—Yes. I might say that there are also three other hospitals near the boundary, the Royal Free Hospital, which is only just across the road, University College Hospital, and the French Hospital in Shaftesbury Avenue, and there are some a little further off—the Middlesex Hospital, which is a longer distance away, and St. Bartholomew's.

235. Is it the practice not only to use the nearest ambulances, but to send cases to the nearest hospital or infirmary?—Always to the nearest hospital or infirmary.

236. Would you send to a hospital in preference to an infirmary?—Yes, always.

237. Although the hospital might be a little further off?—Yes, because we think they get a little better treatment in the hospital.

Supt. Thomas Cole.

238. Can you give us the figures as to the cases of accident and illness in your Division?—Yes. During the year 1906 there were 631 persons suffering from accident and 308 from illness, who were conveyed to either hospitals or infirmaries.

239. And in what ways were they conveyed?—325 were conveyed by ambulances, 124 by cabs, and 145 by other conveyances. Then there were 345 walked. I might say that a great many of those who walked preferred to walk, and some really objected to being conveyed in any vehicle at all. Frequently that is the case; if their injuries are only slight they say, "I would sooner walk to the hospital than get into a cab or be conveyed on an ambulance."

240. Now will you give us the figures of the distances that these persons were conveyed?—Under a quarter of a mile, 568; under half a mile, 365; and under three-quarters of a mile, 6. I have another Return in which I give a larger number of the distances: Under 200 yards there were 164; over 200 yards and under 300, 94; over 300 yards and under a quarter of a mile, 310; over a quarter of a mile and under half a mile, 365; over half a mile and under three-quarters of a mile, 6.

241. That is just a subdivision of those 568 cases conveyed under a quarter of a mile?—That is so.

242. You have already told us that a person very often prefers to walk if he can?—That is so.

243. How about cabs; what are the instructions to constables about using cabs?—They are not to use a cab if it is a dangerous case. If it is a serious accident or if there are broken legs, we never put the person in a cab with a broken leg.

244. Those are their instructions?—Yes. Sometimes the quickest way to get a person with a broken arm or a slight injury to a hospital is in a cab. It saves the time in getting the ambulance.

245. You would send a person with a broken arm in a cab?—Yes.

246. Without waiting for an ambulance?—Yes, you get them to the hospital quicker like that. I might say with regard to those cabs, 54 of them were cabs which really caused the accident. They stopped, and the person was put into the cab and taken straight off to the hospital at once.

247. The constable has to judge for himself, I suppose, unless there is something like a broken arm, which he can see, as to whether the accident is sufficiently serious to justify him in keeping a case until an ambulance comes?—Yes, it must be left a great deal to his discretion; but if he saw that a person was seriously injured, if he knew that something had fallen upon him and crushed him, and there was likely to be internal injury, he would not put him in a cab.

248. I suppose there is no difficulty in your Division in getting cabs?—No, they are always available in the streets. You can get them at any time almost.

249. In your Division, I see there were 325 cases taken by ambulances and 124 by cabs; so that it looks as if the ambulances were resorted to a good deal more than cabs?—Yes.

250. There were 145 cases taken by other conveyances of various kinds—that seems to be very common. You say that the cab itself which causes the accident will often take them?—In 54 of those cases they were taken by the cab which caused the accident.

251. That does not include cabs which might be sent for by the constable?—No, it does not; the difference of the 145 is made up by those which were called by the constable.

252. Now, have most of your men been taught to give First Aid, and so on?—Yes; my total strength is 582 men, and out of that number there are 408 who hold certificates for the first course; 59 who hold certificates for the second course, and five medallions. 472 out of 582 hold certificates.

253. Are those who have had most training in the second course and the medallion men?—Yes; they have passed the second and third courses; but in addition to that I have 50 others who sat for examination this year, but I have not got the results yet.

254. At what stage does a man get this training; as soon as he joins the force, or before?—He commences really when he is in the preparatory class on the drill ground. He gets instruction at Scotland Yard first of all; then, as soon as he gets to a Division, he goes to the proper place; ours go to one of the Board schools—Tower Street school.

255. Who instructs them there; is it under the County Council?—It is under the County Council. Formerly a number of them used to have instruction from the St. John Ambulance Association, but now they all go to the Board schools and get it from the London County Council.

256. Do they go in their own time, or as part of their work?—They are allowed two hours off for each time they attend.

257. How often do they attend instruction?—Twice a week.

258. In the evening, or at what time?—Generally in the evening from 6 till 8. The time is arranged for the convenience of the instructors; it is generally from 6 to 8 in the evening.

259. How long does the class last generally?—For two hours.

260. Now, as to the availability of the ambulances; how long does it take generally to get an ambulance after the happening of an accident?—I made a calculation that out of 325 cases it averaged to get the ambulance and get the person to the hospital, 15 minutes.

261. To get them started to the hospital?—No, until we get them to hospital. Of course the constable has first of all to go and fetch the ambulance and then return to the patient, and then go to the hospital. It is like making three journeys.

262. Supposing an accident takes place, what is the first thing that happens generally; would the police constable get hold of anyone he could?—Generally he sends another constable for the nearest ambulance; that is, if he intends to send for an ambulance.

263. Would he blow his whistle first and get another constable to come up?—If necessary; but generally when accidents occur in the Strand and congested thoroughfares there are other constables within call.

264. But he would, of course, make use of another constable if he could?—Sometimes a private individual goes, but generally it is another constable.

265. Does he often send a cab for the ambulance?—Not very often.

266. Or for the nearest doctor?—We very seldom call a doctor; the quickest way we find to get medical aid for a person is to take him direct to a hospital.

267. Then there are not many cases in your Division where a doctor sees the patient?—No, very few. We often find that if we send for a doctor we probably have to send to two or three residences before they find a doctor in; therefore it is only losing time.

268. A constable does not, then, as a matter of fact often send for a doctor, so far as your experience goes?—No; except in a very serious case. If he sees it is a serious case and he thinks the person ought not to be removed without medical aid, he will send for a doctor first.

269. But he does send for an ambulance?—Yes.

270. That, of course, depends upon the gravity of the case, or what he thinks the gravity of the case?—Yes. Sometimes, if a motor car meets with an accident and somebody meets with an injury, a person in the car will say, "Put him in the car, and I will take him to the hospital," and of course the constable avails himself of that offer.

271. You have not got a separate column for motor cars in these Returns?—No, I think not.

272. Still that might happen, and you say it does happen, not infrequently?—Yes; and the same with other vehicles, vans and that kind of thing for instance. Then the average time in getting people to hospitals, if they are taken by cabs or other vehicles, we find is about five minutes.

273. From the time of the accident?—Yes; because they are taken up at once and taken straight away to the hospital; whereas in the case of those who walk, they get there in about six minutes.

By the Earl of Stamford.

274. I suppose I may take it that your Division is one of the most conveniently circumstanced with regard to ambulances and hospitals in the Metropolis?—Yes, certainly it is.

275. Have any cases come under your knowledge where there has been a trying delay in obtaining an ambulance and taking a patient to hospital?—I have not heard of one.

276. Your impression is that it is not so?—We are so well supplied with ambulances all over the district that it could not very well happen. The constables are well

Supt. Thomas Cole.

acquainted with the positions of them all, and in addition to 13 in our Division, we have five others immediately on the boundaries—18 ambulances almost within a square mile, so to speak.

277. In the majority of cases the constable, who had to deal with an accident, would be one who had been trained, to some extent, at any rate, in First Aid ?—Yes.

By Sir William Collins.

278. I think you said that in the year 1906 there were 631 cases of accident dealt with in your Division ?—Yes.

279. 118 of those, I understand, were conveyed to a hospital or infirmary by ambulances ?—That is so.

280. Then those conveyed by cabs were 76, were they not ?—Yes.

281. And by the vehicles which injured them 79 ?—Yes.

282. In column four of this table it is said that there were 513 cases which were conveyed to a hospital or infirmary by means other than ambulances ?—That is so.

283. Are those individual cases ?—Yes.

284. Of those 76 were conveyed by cabs ?—Yes.

285. Then the 513 and the 118 make up the 631 ?—Yes.

286. Then 118 out of the 631 in your Division were conveyed to a hospital or infirmary by an ambulance, and if I add together the other columns dealing with those conveyed to a hospital or infirmary by some vehicle or other, but not an ambulance, I make the number 184 ; that is so, is it not ?—Yes.

287. Then what do you suggest is the reason that in your Division, well supplied as it is with ambulances, of the patients who suffered from accidents in the streets and were taken to a hospital or infirmary, whereas 118 went by ambulances 184 went by some vehicle other than an ambulance ?—Because cabs were available in so many cases, and, as I explained, these other vehicles, for instance, 18 passing vehicles proffered their services by the owner or driver and it was accepted by the constable.

288. Is it because the cabs are generally more readily available that you use them ?—That is one reason. As I say, in those 54 cases the cab caused the accident, and in some other cases the other vehicle caused the accident, and they offered their services, and it was accepted by the constable.

289. Is it easier and quicker to whistle up a cab and take the case away than to send for an ambulance ?—Yes, in a district like ours we have cabs nearly always on the spot, and it saves a great deal of time if the person can be taken in a cab instead of sending for an ambulance.

290. You stated that you seldom called in a doctor in your neighbourhood ?—Yes, that is so, as the Return shows.

291. You find it difficult then to comply with the instruction No. 2 (*Appendix III., (C.)*) which is given to this effect : "It is to be thoroughly understood that in all cases in which persons come into the hands of the police, whether as prisoners or in any other manner, and there is any appearance of their being ill or suffering from injury, or it is known or believed that they have hurt themselves by falling down while drunk or otherwise, the divisional or other surgeon is to be invariably sent for to see them although they may make no complaint. The Commissioner trusts that there will be no neglect in carrying out this Order" ?—I think that applies more to prisoners at the police stations.

292. "Whether as prisoners or in any other manner ?"—Yes, but in the case of these accidents and slight illnesses in the street, it is quicker, I say again, to get medical aid for the man by taking him to hospital instead of sending for a doctor.

293. In other words, it is cumbersome to carry out the procedure suggested in the Rules ?—Yes.

294. You think the best method is to get the patient as quickly as possible to the hospital ?—Yes.

295. And that is generally accomplished at the present time by means other than an ambulance ?—Yes, in most cases. There were 325 cases taken in ambulances in the year.

296. But dealing with accidents, only 118 went by ambulance and 184 by some vehicle other than an ambulance ?—That is quite right.

297. You spoke about three journeys being required to get the patient to hospital with an ambulance ; that is, sending for the ambulance, getting it back, and then taking the patient to hospital ?—Yes.

298. That is what takes up the time ?—Yes, traversing the ground as it were three times. That is why it takes longer to get them there by ambulance than by other vehicles. If a vehicle is on the spot you put the patient in and you get the patient to the hospital before you could get the ambulance from the hospital.

299. Have you yourself taken patients to a hospital when you were a constable ?—Yes, not a great many, because I happened to be out Clapham way when I was a constable, and one did not meet with many cases out that way.

300. I think you said that it was a rule not to use cabs for a case of a broken leg ?—Yes.

301. Is that a printed rule ?—No, I do not think it is ; but it is a general instruction to the men ; or if there is any sign of serious injury. I should say, if a man was crushed and was thought to be suffering from internal injuries he would not be taken in a cab.

302. Do you think that if we enquired at the hospitals in your district we should learn that no case of a broken leg was taken by the police to a hospital in a cab ?—I would not like to say that there has never been a case, but it is their instruction not to do so.

303. Who gives them that instruction ; it is verbal, I understand, not printed ?—That is so.

304. In what way is it given ?—The men are instructed by their officers not to do so.

305. Do you yourself instruct them ?—Yes.

306. On what occasion have you given that instruction ?—On many an occasion ; especially when young men join the service they are instructed by the Chief Inspector in the best part of their duties, and that is one of the things he instructs them in.

307. Is there any memorandum kept of these instructions that you give to the men from time to time ?—No, it is general instructions he gives them to tell them how to act in certain cases in the streets.

308. Would you tell us the mode in which the report is made by the constable on duty which enables you to prepare these statistical returns ?—He takes the name and address of the injured person, the particulars as to how the accident happened, and enters it all in his pocket book, and from that the inspector makes the entry in the Occurrence Book at the Station.

309. Has he a form which he has to fill up indicating the various modes of conveyance to hospital ?—No, he has no form.

By the Chairman.

310. Does he, as a matter of fact, make an entry as to the mode of conveyance in his note book ?—Yes, always. That is always done, of course. If he omitted, then it is the duty of the inspector to call his attention to it and ascertain those particulars before he makes his entry in the Occurrence Book.

By Sir William Collins.

311. I think you gave some valuable evidence before a Committee of Enquiry of the London County Council some five or six years ago ?—I did give evidence before that Committee.

312. You then stated that there were two litters at Bow Street, one at Gray's Inn Road, and one at Hunter Street ?—Yes.

313. Would that be true now ?—That is true now, but in addition to that we have others stationed at other places now.

314. What additional provision have you made since that time ?—One ambulance has been placed in Duncannon Street, and one at the top of Shaftesbury Avenue by New Oxford Street, one at the north-west corner of Lincoln's Inn Fields, and one in Guilford Street by the Foundling Hospital.

315. Are those the Bischoffshcim ambulances ?—No, those are ours—additional Police ambulances which have been placed there since.

316. We have been told of three horse-ambulances which have been under the care of the police for many years past but are now regarded as obsolete ; have you had occasion to use those ?—No, I never saw one of them.

317. You have never seen them ?—No.

318. I take it then that they are not used in your district ?—When I say that I never saw one, I saw one the other day at Scotland Yard, a rather old-fashioned thing.

Supt. Thomas Cole.

319. You saw it then for the first time?—Yes.

320. Is the instruction in first aid compulsory on all constables?—No, it is not compulsory, but we advise men to undergo the instruction and get a certificate.

321. And they are allowed time off for that purpose?—Yes, they are allowed time off as an encouragement and inducement to them to get it.

322. Do you know why the tendency has been to give up the St. John Ambulance classes as a mode of instruction in favour of the County Council instruction?—No, I know of no reason, except that, perhaps, the classes are more convenient. There is no other reason.

323. Do any of your men now attend the St. John Ambulance classes?—No.

324. They all go to the County Council classes?—They all go to the County Council classes.

By the Chairman.

325. How general is it; are there many men who do not go at all?—Now nearly every man goes; nearly all the young men on joining the Service go now, as you will see by the numbers I have given; 472, and 50 others who have been to the class out of 582; that is, 522 out of 582; and those who have not been are mostly some of the older constables.

326. In your Division is it something like the regular thing for anyone who joins the police for the first time to take it up?—Yes, to take it up and pass the examination and get a certificate if he can.

327. Any man who really wants to do his duty properly would do that?—Yes, and it is a great assistance to him; because meeting with so many accidents one never knows when he might require it, although they do not frequently make use of it, because they are so near hospitals that they take the patients there.

328. You say that they do not frequently make use of it?—They do not.

329. I suppose your Division is rather specially well situated for nearness both to ambulances and to hospitals too?—Yes, it is well provided all the way round.

330. Is it more so than any other Division in London, do you think?—I do not know about the C division; it is probably just as well off, and so are a few of the other inner Divisions, but it is more when you get into the suburbs that you feel the want of it.

331. Have you often had reason to complain of a constable not attending to people properly, sending them off too soon without waiting for a doctor or an ambulance and so on; have you ever had complaints made to you or known of many cases of that kind?—I have not. I have had none myself and I do not remember one.

332. Do you say that the constables treat these cases with fair discretion?—I think so; that is my opinion.

333. At all events you say that you have not had complaints about it?—I have had no complaints about it.

By Sir William Collins.

334. Is the telephone ever used with a view to summon an ambulance quickly?—No.

335. Have you ever had a difficulty when you have taken a patient to a hospital—a bad case—in finding that it cannot be admitted there because there is no bed?—It is a very rare case. Sometimes at the hospitals they will send them away to the infirmary if they have no bed.

336. Or to another hospital, I suppose?—They generally send them to the infirmary if they cannot take them in.

337. Have you any means of knowing before you get the injured person to the hospital whether there is a vacancy at the hospital for his admission?—No; we have to take them there on the chance that they will be admitted.

338. You have known of cases in which having arrived at the hospital you found they could not be there taken in because there was no bed?—Yes, but not many cases.

339. Then you take them to the infirmary?—Yes, either to the infirmary or wherever the medical officer of the hospital may direct, but it is generally to the infirmary.

Superintendent JAMES OLIVE, called in and examined.

By the Chairman.

340. You are Superintendent of the X Division, the Kilburn Division?—Yes.

341. You have 81 square miles in your Division?—Yes.

342. I do not know that you need give all the boundaries of it, but the Division takes in Harrow, Pinner, Ruislip, Harefield, Northwood, the greater part of Paddington, the whole of Kensal Green, Kensal Town, Notting Dale, part of North Kensington, the whole of Kilburn, Acton, Ealing, Hanwell, and all that country extending away to Uxbridge and near to Rickmansworth?—Yes.

343. Therefore you have a great deal of purely country district in your Division, as well as a very populous suburban district?—Yes, we have Paddington and Notting Dale, which, of course, are practically the centre of London.

344. You have some figures, which we have had already in another form as to the number of persons conveyed to hospitals or infirmaries in the year 1906. Will you just give us those figures?—We had 276 accidents, and we had 119 cases of illness which needed to be treated in the streets by conveyance to hospitals or infirmaries, and we had 140 persons removed on ambulances who had met with accidents, and 136 persons conveyed to hospitals or infirmaries by other means. Of course a number of those were conveyed by cabs, a good many by passing vehicles, or by the vehicle which had caused the accident. We had 119 persons suffering from illness in the streets dealt with by the police, and 90 of those persons were removed on ambulances and 29 by other means.

345. Then you make a considerable use of ambulances in your district as compared with other vehicles; there are a larger proportion of persons conveyed by ambulances to hospitals and so on than by other vehicles?—I should say about half.

346. What are the distances that these people have to be conveyed?—That, of course, is given in these Returns. Return No. 3 (*Appendix II., Tables (E) and (F.)*) gives you the approximate distance to the nearest hospital or infirmary. I might tell you that practically no part of my

district is within the three-mile circle—a very small portion of it indeed. I could show you that on this rough sketch map I have here (*Handing in a map and describing the same*).

347. Can you give us any figures showing how far the ambulance is usually stationed from the place where the accident occurs, when a person has to be removed?—That is given in these Returns (*Appendix II., Tables (G.) and (H.)*). With regard to accidents, 109 of those accidents occurred within a quarter of a mile of the place where there was an ambulance available.

348. And can you say how long it takes to get an ambulance as a rule?—Within that three to four mile circle I make the average time 25 to 30 minutes from the time of the accident until we can get the case to the hospital or infirmary; that is the average time; some would take a little longer, some probably less.

349. What hospitals have you available in your Division?—St Mary's Hospital and the Paddington Infirmary—that is just central; and then we have the Willesden Cottage Hospital, the Harrow Cottage Hospital, the Ealing Cottage Hospital, the Acton Cottage Hospital, and the Hanwell Cottage Hospital. Then there is a hospital also at Uxbridge; they do not like to receive accidents, but they will receive a serious case from us; I might say that at Ealing, Acton and Hanwell, where a good many accidents occur, we police the district right away from the Shepherd's Bush Tube down the main road. Most of those accidents are caused by tram cars and other vehicles. The hospitals are just close to that main road, so that they are easy of access to us, and when an accident happens all the constable has to do is to jump into a tram car and get up to the station, fetch an ambulance down, and the case is in hospital in a very few minutes. Within that area, say, from Acton to Hanwell, I find we can get an ambulance to the scene of the accident and the patient to hospital well within 20 minutes.

350. When an accident occurs within your Division, do you send for a doctor generally?—If it is an accident in which the constable considers it necessary to have a doctor, he sends for one immediately.

Supl. James Olive.

351. Is there much difficulty in getting a doctor ?—We can always get a doctor except during the period when doctors are visiting, generally perhaps between 12 and 2 or 3 o'clock. At other times there is not the slightest difficulty.

352. Then it is within the constable's discretion whether he sends for a doctor or not ?—Yes, but he uses a very wide discretion ; it is almost an invariable practice.

353. Has he any other instructions than those contained in the Orders ?—We always impress upon the constables that they are to use the power given them in a very wide way. The Commissioner places no restriction whatever upon their judgment, and we expect them to use a very wide discretion in that direction.

354. Are you satisfied generally with the way in which they use their discretion ?—Certainly.

355. With regard to choosing the means of conveyance, whether they send for an ambulance or not, what is the practice : would they send for the ambulance or use a cab. I suppose there are not many cabs there ?—Within the three to four-mile circle there are plenty of cabs. Outside that radius they are not so readily available, but we find when doctors come they very often say, " Put him into a cab and take him away." Of course in a great many cases (I am speaking as a layman), a cab is just as good as an ambulance, except perhaps in the case of accidents to the lower limbs or anything of that kind.

356. Supposing that a constable found a man with a broken leg, what would he do ?—Then he would certainly insist upon having an ambulance.

357. Would he be thought to do wrong if he did not send for an ambulance ?—Yes, we should hold that he ought to have sent for an ambulance.

358. How do you convey that instruction to him, that in cases of broken legs he ought to send for an ambulance ?—I think that is impressed upon him always by the medical gentlemen who lecture on First Aid.

359. Is there any other class of accident in which you send for an ambulance in preference to using any other vehicle ?—I do not think we should. If we thought the patient could be got to the hospital or infirmary quicker, and the doctor who happened to be there said there was no harm in our doing so, we should certainly avail ourselves of a cab. We also avail ourselves of tram cars, because often a patient can be laid down at full length on the seat of a tram car, and it is a very easy means of locomotion.

360. Do you know of many cases of delay in getting a person to hospital ?—I have had no complaints at all of that.

361. Have you any horsed ambulances available at all ?—Not near me. The nearest horsed ambulance would be that of the Metropolitan Asylums Board, for which we should have to send to Hampstead ; and the next nearest would probably be Fulham ; but neither of those is of any use to me, because the one would be two and-a-half miles and the other three miles away.

362. Do you see any difficulty in using horsed ambulances, or in having an increased supply of horsed ambulances, from a practical point of view ?—From my point of view I do not think the horsed ambulances would be of much use unless we had a very extensive system of street signals. I cannot see that, in the centre of London especially, it could be of much use, because ambulances are stationed so very close together that they are readily available now.

363. How many ambulances have you available ?—I have an ambulance at every station except two, and they are remote country villages, Harefield and Ruislip. I have an ambulance also at the new police station site at Southall, on the main road, where, of course, it is wanted on account of the electric trams going through there ; and we have an ambulance at Shepherd's Bush Green, not on my Division, but my boundary is on one side of the road and the T Division the other side ; so that that is always available for my use as well as theirs. Then we have another ambulance in Royal Crescent, close to Shepherd's Bush Tube Station, and we have one at the London County Council Fire Station in Faraday Road, Paddington ; and several of the railway companies also have ambulances at their stations.

364. Do you use those at all ?—We should in an emergency.

365. Do you often use them ?—Not very often ; because the occasion has not arisen.

366. Have you any difficulty in getting them ?—None. Then one or two councils also have ambulances.

367. In all these cases do you get the ambulance that is handiest to you, whether it is a police ambulance or any other ?—Yes.

368. It does not make any difference to whom it belongs, you get one as well as the other ?—Yes, we should go to the nearest place.

369. Have you enough ambulances, or could you do with more ?—The only place in my Division where I have found we needed another ambulance is in the vicinity of Kilburn High Road, which, as you no doubt know, is a very busy thoroughfare indeed ; there is an enormous traffic of motor cars, motor omnibuses, horse omnibuses, and pedestrians ; a good many accidents occur there, and we have found it necessary to have an ambulance there. We have made arrangements with the Willesden District Council, who have found a piece of ground for us just off the main road, and a shed is about to be built for us, and we are to have an ambulance there ; and that, I think, will really set the X Division right.

By the Earl of Stamford.

370. What proportion of your constables would have had instruction in First Aid ?—I had a Return got out a day or two ago and I find in the whole of my Division I have 440 men who have been through First Aid classes and got certificates.

371. Out of how many ?—Out of a total of 882 of all ranks. I should like to add to that that, of course, every constable, on joining, gets a certain amount of instruction in First Aid. I am speaking of men holding certificates when I mention 440, but they all get some instruction when they are in the preparatory class before they are drafted to a Division at all.

372. Where would that instruction be given ?—In New Scotland Yard.

373. There was one case in your Division last year, I see, of an accident which took place over seven miles from the nearest available ambulance. Have you any recollection of that case ?—To the best of my recollection that case occurred right away at the extremity of either Ruislip or Northwood.

374. Do you remember whether it was a serious case ?—No, it was not a serious case. I have not any particular recollection of it. I can look it up if you desire to have information of it.

By Sir William Collins.

375. I suppose your X Division differs very greatly in its character in different parts ?—Very greatly.

376. That portion which is cut by the three and four mile circles would be totally different, I suppose, from the rest of the area as regards liability to accidents and the mode of conveyance available ?—Yes, of course ; down the main road, say between London and Hanwell, there is a great liability to accidents on account of the immense traffic of tramways and vehicles to London and back.

377. Should I be right in thinking that where a cab has been used it has been mostly in the portion of the Division within the three and four mile circles ?—Within the four mile circle there were 35 cases of accidents in which cabs were used and four cases of illness.

378. The total cases in which cabs were used for accidents was 49, was it not, in your X Division ?—Yes, 49 cases, and 35 of those were used within the four mile radius.

379. According to Return No. 3 (*Appendix II., Table (E.)*) I gather that a considerable majority of the cases of accident occurring in your Division would be more than a mile from the hospital or infirmary to which they are conveyed ?—71 under a mile and the remainder were over a mile.

380. That would be more than 200, then, over a mile ?—Yes.

381. So that the great majority would be over a mile ?—But you must remember, as I said before, that nearly all my district is more than three miles from Charing Cross.

382. Do not you think that the time of getting an ambulance to the injured person might be shortened by an improved method of summoning it ?—I am afraid not ; I cannot see that it could be, for this reason, that you never know where an accident is going to happen ; the only way of shortening it would be by furnishing electrical appliances to ring up the police stations.

383. Do they use the telephone at all for the purpose of dealing with injured or sick cases ?—They use it wherever

it is available. For instance, a constable patrolling a long distance away could go into some place where the telephone is on the Exchange, and telephone to an office to have the inspector acquainted. Then, again, we have telephone boxes in some of the remote parts of the district; I have only three in my district, but we use those telephone boxes for the constable to report himself to the station or to summon aid. He could go in there if he were near it and telephone to the inspector for the ambulance.

384. Do you think we could increase the service of telephones for the purpose of summoning an ambulance?—Yes, it might be done in the outer part of the district. I do not see any use for it in the centre of London.

385. I am speaking of your district. As to getting an ambulance when once it is summoned to the injured person, would it be desirable if that ambulance could come quicker than a man could push it?—It would be an advantage to get it there as quickly as possible. That would be an advantage.

386. A previous witness told us, "Outside the four-mile radius, and more especially towards the boundary of the police district, the number of ambulances provided is much less, and of course the hospitals are at a much greater distance. In this extensive outer area, which we may say roughly embraces 650 out of our 700 square miles, horsed or motor ambulances would be very useful, but to be fully effective they would have to be supplemented by an extensive system of street signals, to ensure immediate intimation being conveyed to an ambulance station of the need for an ambulance at a given spot." Do you agree with that?—Yes.

387. That is to say, in this outer area horse or motor ambulances would be very useful if this improved method of signalling were also adopted?—Yes; but I should like to add to that that I do not think you would gain very much by it unless horsed ambulances were pretty plentifully supplied, because, supposing you only had one for a large area, that ambulance might be in some other place when you were summoning it, and then you would only have that ambulance to depend upon.

388. Horse or motor you see is referred to in that evidence?—Yes, and again you would want a very large number of signal posts for men to be able to signal from.

389. Is not the telephone already in existence over a large portion of your area?—Certainly.

390. Could not places where the telephone is available be utilised for the purpose of summoning an ambulance?—They are now. A constable would not hesitate to go to a telephone station to telephone for the police.

391. Can you give us any idea how often the telephone is utilised for the purpose of summoning an ambulance in your district?—I could not, for the simple reason that accidents in the remote portions of my district are rare.

392. In portions of your district which are not remote is the telephone often used?—No, because I am so situated that I do not need to use it. Most of my accidents are on the main road where the tram cars are available almost momentarily.

393. You mentioned the electric tram cars as a suitable mode of conveyance of an injured person because he can be laid down in a horizontal position?—Yes, from my point of view it is a suitable method of conveyance. That would not apply to every accident. For instance, if a man had ruptured a blood-vessel, or in a case where you want his leg held up, it would not apply.

394. Would a cab be a bad mode of conveying an injured person because he could not lie easily in a horizontal position?—That is rather a medical question—I do not like to answer it.

By the Chairman.

395. I should like to understand this: In your district, I suppose, although accidents may occur at a considerable distance from the centre, from Charing Cross, yet the places where most accidents occur, it is almost needless to say, are places where there is a considerable motor or other traffic going on?—Yes, it is the traffic you might say that causes the accidents.

396. And the traffic also forms a means of communicating with the Ambulance Station?—Yes; that is to say that although the traffic is the cause of accident it also provides the means of getting the patient to hospital.

397. So that if you had an elaborate system of horsed ambulances I suppose you would say that though they would be very useful indeed in serving the remoter districts—the outlying districts—yet at parts like Harefield, where accidents do not often occur, it would be rather a strong measure to have a horsed ambulance for that purpose?—I take it that in what may really be called the outer part of my district we would not have to deal with an accident more than once in three days or thereabouts, and in a place like Harefield you would probably only get three or four accidents in a year.

398. Are there many places in your district where there would be very little means available for help if an accident did occur, because a constable is not on the spot in the same way as he is in other parts?—In some cases the constable of course is not on the spot till a considerable time after the accident has happened, and it is dealt with by some private person, who does what he can at the moment until the constable comes on the scene.

399. Are many accidents dealt with in your district without the intervention of the police at all?—I do not think so. I think there are very few but what are eventually dealt with by a constable, if not at the moment.

400. Are there not many that do not get into your reports?—No, I am sure there are very few.

By Sir William Collins.

401. Is St. Mary's the only general hospital in your Division?—That is not actually on my ground; it is just off it; it is on the F Division; that is the nearest general hospital to us. We have the Paddington Infirmary, which is within, I suppose, about three to four minutes' walk of my chief station; they will take accident cases there always.

402. Have you ever found when you take a case to a small cottage hospital in an outlying portion of the district, that they regard themselves as unable to deal with so serious a case?—They have accepted the cases. I would not say that they have always kept them. It may be, and I think in some cases it has been, that they have afterwards sent them to a general hospital.

403. To London?—Yes, but they always receive them and do all that is possible for the patient at the time.

404. If a case is conveyed by train to London, would the police accompany that case?—Yes, certainly, if the police were called to it they would accompany it. As I said just now cases are very rare in which the policeman does not come in.

405. Would arrangements be made for meeting the case at the terminus in London?—Yes, with an ambulance.

406. How would you communicate with them?—On our telephone.

407. You use a telephone service for that?—Yes, telephone and telegraph. All our stations are not in telephonic communication yet, but a great many are, and where they are not there is telegraphic communication.

408. Not all your stations are in telephonic communication?—No, but every station has a telegraph or telephone. We are supplementing the telegraph as rapidly as we can.

409. Are you not in telephonic communication with the hospitals in London?—No.

By the Chairman.

410. Your telegraphs are special wires?—Yes, our own wires; nobody else has access to them; and I might say that we have a very elaborate system of telephones too.

411. Do your men get any allowance or anything in point of time for attending the ambulance classes?—Yes, we allow them the time off that they are actually engaged. We afford every facility for the men to attend the classes, and we encourage it as much as we possibly can.

THIRD DAY.

Tuesday, 4th June, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. The EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. REGINALD HARRISON, F.R.C.S., called in and examined.

By the Chairman.

412. You are a Fellow and a past Vice-President and Professor of the Royal College of Surgeons of England?—Yes.

413. And you have been for a great many years surgeon to large general hospitals which have been receiving accidents from streets, docks, collieries and other places?—Yes, for 30 years.

414. You have paid a good deal of attention to this question?—Yes, I have paid a good deal of attention to it.

415. You were going to give us a short history?—My statement will take but a very short time, if you will permit me to read it.

416. Will you proceed in your own way?—In 1884, in conjunction with a number of medical men and other persons, I advocated and brought under the attention of the Corporation of Liverpool a system of dealing with street accidents and casualties, which I had and have since seen working in New York and other cities in the United States.

417. Could you mention the names of the cities?—Boston, Chicago and New York. This system for the most part consisted in the addition and introduction of horse ambulances for the conveyance of injured persons from the streets to the hospitals or to homes, as the case might be, which system is still in use in Liverpool.

418. I suppose that horse ambulances are general in the United States?—Yes, they are very general.

419. The police there have a different organisation from ours?—Yes, rather different. Some steps appear to have been taken by Mr. Crossman, of the London Hospital, in conjunction with Dr. Benjamin Howard, with the co-operation of the Commissioner of Police for the Metropolis, Sir Edward Henderson, who was linking up the police stations with the hospitals by telegraph about the same time; but it was in Liverpool that an organised horse ambulance scheme first came into actual existence in this country.

420. We shall have Captain Nott Bower to give evidence?—I merely put in two notes with regard to him; I will not read those.

421. We shall hear from him?—I pass on from matters about which others may be able better to inform the Committee than myself, and I proceed to notice some points which, as a medical man representing two large associations of medical men practising in London and its suburbs, namely, the Metropolitan Street Ambulance Association, founded three years ago, and the Metropolitan Counties Branch of the British Medical Association, I feel in duty bound to refer to. The medical bodies I represent include physicians and surgeons who actually see the injured and ill persons on their arrival at the various London hospitals, and therefore probably are the most competent persons to judge as to the efficiency or otherwise of existing provisions in London for street ambulance purposes.

422. Stopping there for a moment, have you yourself had (you have, of course, had a good deal of experience of that kind) opportunities of actually seeing people brought in?—Yes.

423. Have you lately?—No, not very lately. I have been an amateur lately in reference to this.

424. I quite understand?—And I think there are very few hospitals in London that I have not been an amateur at for this purpose.

425. Speaking for myself, I think that that evidence is very important?—I have been interested in the matter during the 30 years that I put in as a professional.

426. You actually saw people brought in?—Yes.

427. Was the system then different at all from what it is now?—It was the horse ambulance chiefly. I was in Liverpool for over 20 years.

428. You were there since the establishment of the horse ambulance?—Yes, I have been living in London now for a good many years, so that I have seen the contrast between the two. The present movement for improvements has largely emanated from these gentlemen who, before such bodies as the Police Committee of the Corporation of London, and the London County Council have publicly testified from their own observation as practising physicians and surgeons in the Metropolis, as to the inadequacy of our means for dealing with personal illness and injuries in the streets, and how imperfectly in this respect we compare with other cities in Great Britain, not to say anything of other nations, as witnessed for instance in New York, Paris, Berlin, Vienna and elsewhere. I have put a paragraph in with reference to this question.

429. That is part of the history?—I think it is part of the history. I might just as well say, for anybody who wants really to refer to it, that you will find the details of these public meetings in this little pamphlet, "The Ambulance in Civil Life," (*handing the same to the Committee*). They are all there. I am epitomising them. On May 10th, 1904, that is just three years ago, a joint deputation from the Metropolitan Street Ambulance Association and the St. John Ambulance Association was received by the General Purposes Committee of the London County Council, when a better ambulance service for the streets of the Metropolis was urged by Sir William Church, Sir Richard Temple, Sir Herbert Perrott, Dr. Arthur James, and other speakers. All that you will find in the book. In the course of last year, 1906, that is, two years after that meeting, the London County Council in their General Purposes Bill sought Parliamentary powers for an ambulance service; but these clauses were not conceded by the House of Lords. On June 29th, 1904, another joint deputation from the same associations waited on the Police Committee of the City Corporation for a similar purpose as previously stated, when an improved ambulance service for the City of London was urged by Dr. Arthur James, Sir Richard Temple, Sir Dyce Duckworth, the late Sir Joseph Fayrer, Mr. Golding Bird, Inspector-General B. Ninnis, Mr. Anthony Bowlby, Sir William Church, and other speakers. Then, on May 13th, 1907, a new system for ambulating the City of London by means of automobile ambulances with telephonic communications was opened by Sir Alfred Newton in connection with the section attached to St. Bartholomew's Hospital. They have only one at work now, but I believe others are contemplated; you will probably hear more about that from Captain Nott Bower.

430. Yes, he knows about that, no doubt.—I should also add that a public meeting, to which everybody was asked who liked to come, was held in London on May 7th, 1904, over which I had the honour to preside, and which was largely attended by the medical profession and

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other persons, when an improved ambulance service for London was warmly advocated by Dr. Arthur James, Sir William Church, Mr. T. Holmes, Sir John Tweedy, Sir Alfred Cooper, Sir Thomas Barlow, Mr. G. H. Makins, Mr. W. Thorburn, of Manchester (one of the surgeons to the Manchester Royal Infirmary), and others. In referring to these public expressions of opinion relative to obtaining a more efficient ambulance service for London, it is a matter of satisfaction to note that no hostile or antagonistic criticism was provoked, so far as I know; on the contrary, the views and actions of the two associations concerned have been throughout received with a degree of unanimity of expression which is rarely found in connection with movements of this kind. That is a little history, and I will just go on to my own comments, if you will allow me to.

431. Yes, please.—In view of the necessity which exists for improving the ambulance service for accidents and medical casualties occurring in the London streets, these remarks are offered as arising out of enquiries made by the Metropolitan Street Ambulance Association during the past three years, and are for the most part intended to be suggestive as to how this necessity may be approached and reasonably dealt with. The mortality and casualties which occur in the streets and public ways of the Metropolis during a year by reason mainly of the great increase in and altered character of the vehicles employed in the traffic, and the speed at which many of them are propelled, are approaching that of the smaller wars in which we have been engaged. The number of serious accidents is considerably on the increase, especially those happening in connection with motor and tramcar traffic, whilst but little progress has been made for some years past in improving the methods of dealing with them on the spot.

432. We have had a good deal of evidence of that. There is a considerable increase in the number of police litters?—Yes; I believe in number you are quite right.

433. Have you any figures, or were any given at any of these enquiries you have referred to, as to the actual increase of accidents, especially caused by the additional speed of vehicles?—I have the evidence of the Home Secretary, which I am going to refer to.

434. There is no doubt that there are plenty?—I thought that I could not be wrong in giving you that.

435. No.—I take 1904 because it is recent and I just happened to have the figures at hand, but I had no other reason for selecting 1904. During 1904 the number of accidents in the streets of London by which persons were killed amounted to 155—more than one every three days—as compared with 154 in 1903 and 175 in 1902. The number of accidents which occurred in the streets during 1904 by which persons were injured was 10,384, as compared with 10,202 in 1903. These figures, I should say, I took out of one of the year-books, and I believe they include both the Metropolis and the City.

436. We shall have information upon that, no doubt?—Yes. Facts such as these should be more generally known, and the public educated by the Press and in other ways to recognise that the dangers of the streets are real and not imaginary, and how their results may be materially mitigated.

437. Before you pass away from the number of accidents, do you suppose that there are many accidents in the streets, or cases of sudden illness in the streets, which do not get into the police reports at all?—Yes, I feel sure. I have made enquiries upon that.

438. You think that there are many cases which do not get into the police reports?—Yes.

439. Perhaps of illness more than of accident?—I think so.

440. Accidents would generally attract the attention of the police-constable at once?—Yes.

441. We shall probably hear of that from the people actually engaged in the hospitals?—I think you will.

442. But that is your own belief?—That is my own belief. Much of the backwardness of London in this respect compared with other cities and nations is due to ignorance of facts and how and when to apply them, rather than to callousness or failure to recognise the responsibility. An opportunity is now afforded of remedying defects. In connection with this point I should like to put in as evidence the last report of 1907 of the Executive Committee of the St. John Ambulance Association, which contains some interesting figures furnished by the Home Secretary in reply to a question in the House of Commons; it is at page 13.

443. Will you give the main figures?—Some interesting figures were furnished by the Home Secretary as to accidents. There were 1,017 caused by vehicles in the month of October last in the streets of London involving personal injury; 118 were caused by motor omnibuses; 123 by motor cars and motor cycles; 138 by mechanically-propelled tramcars; 23 by horse-drawn tramcars; 44 by horse-drawn omnibuses, and 571 by other vehicles. Of the eleven fatal accidents in the same month, three were caused by motor omnibuses, two by motor cars, one by a mechanically-propelled tramcar, one by a horse-drawn omnibus, and four by other horse-drawn vehicles. In November, the following month, there were 842 accidents involving personal injury. Of these 81 were caused by motor omnibuses, 88 by motor cars, 118 by mechanically-propelled tramcars, 15 by horse-drawn tramcars, 43 by horse-drawn omnibuses, and 497 by other vehicles. The fatal accidents were 23; two were caused by motor omnibuses, three by motor cars, one by a mechanically-propelled tramcar, and 17 by horse-drawn vehicles.

444. That is October and November, 1906. This Report is marked "Proof for the consideration of the Committee, May 16th."—That is only just out.

445. This copy is a proof apparently?—Yes. Sir Herbert Perrott was good enough to let me have that. I am a member of the Executive Committee of the St. John Ambulance Association. Further, the publication of information obtained by this Committee from time to time in the Press would, I respectfully venture to think, go a long way towards educating and informing the public in regard to this subject. It is not very easy to get the public to study blue books and interesting reports of that nature. The facts are also accepted on the authority of Sir William Collins's published enquiry—a very important enquiry which he made three years ago.

By Sir William Collins.

446. You mean the published report of the General Purposes Committee of the London County Council?—Published about three years ago—a Yellow Book.

447. It was a Yellow Book—I forget how many years ago, exactly?—It was 1902. The facts are that about 70 per cent. of the street casualties are conveyed to hospitals by cabs and carts and other unsuitable vehicles, and that it is very painful to watch the arrival of accidents at hospitals under the present system. The latter part was Sir Cooper Perry's (of Guy's Hospital) statement. It is hardly necessary to point out that first aid requirements—under which term transport or conveyance is included—for civilians consisting of men, women and children of all classes must differ importantly from that applicable to soldiers with an army in the field. The possibilities of providing adequate ambulance provision at a reasonable cost for largely populated areas, such as the one in question, in the shape of attendance and conveyance for injured persons or those taken suddenly ill in the streets have been greatly increased in the last few years and now only await application. This is mainly due to three causes: first, to the more general diffusion of a knowledge of first aid amongst all classes of the population, particularly the police who are usually first upon the scene of an accident, by which an obstruction to the traffic is caused, and which, as also in the case of a drunken man or a prostrate cab horse, must be removed as quickly and as humanely as possible; secondly, to the greater facilities for rapid verbal intercommunication which are afforded by the telephone. During the daytime, when street accidents and casualties are most frequent, there is hardly a private or public telephone which might not be used by the police on an emergency for this purpose. In some places, Liverpool for instance, houses with telephones, where this applies, are indicated by a small red cross, or other sign on the door or elsewhere. We have an analogous application of the telephone for calls, in the fire alarms and fire brigades which are now found in most large cities. In the City of London, 52 of these call boxes, under the charge of the police, have now been erected. You will hear more about that later on.

By the Chairman.

448. Yes.—Thirdly, the modern automobile, or horse ambulances are now, like the telephone, affording increasing facilities for bringing together the component parts of an efficient ambulance service for the streets. First aid (police), ambulances and hospitals are thus linked up for co-operation with a certainty and rapidity not previously attainable. An ambulance of this kind, with its driver, may be regarded as representing a quickly moving hospital for temporary purposes capable of covering a large area of ground in a short time, with option

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as to speed in returning to home or hospital with the patient, according to directions and the circumstances of the case. I would here incidentally remark that the ambulance should be regarded, so far as accidents are concerned, not solely as a means for quickly carrying off the patient to the hospital, but really as bringing the hospital, if necessary, with its modern accessories for dealing with wounds and serious injuries, to the patient, with a certainty and speed which can be relied on. This is an important distinction to draw in these days where the application of first aid differs so widely from what it used to be. I would just like to say, if you will allow me, that the first object, I think, is to get the patient to the hospital as soon as possible.

449. I was going to ask that?—But there are cases where you must necessarily have more than that. In these anti-septic days we must follow suit a little in what even the army is doing on the battlefield.

450. I have one or two questions in my mind, but I am not asking them now, as I daresay you would like to go on?—Yes, I would like to finish this. Such a vehicle, fully equipped, should be ready to start for the scene of an accident on being summoned authoritatively by telephone or otherwise without delay. I have frequently witnessed rapid transit ambulances on their way to an accident well within five minutes after the signal has been received at the station. I saw this on many occasions in New York in 1881. Where a city has a good ambulance service the area covered by its hospitals may be considerably extended. In London, some hospitals now occupying most valuable sites, might be decentralised without harm to the patients or inconvenience to the medical and surgical staffs—that is, provided the medical staffs keep motor conveyances.

451. Yes?—In this way a considerable economy might be effected by a change of sites. This form of decentralisation has already commenced in London, as in the case of King's College Hospital, and would be favoured by a more efficient ambulance service.

452. We have to consider circumstances as they are, and we cannot go into the question of sites for hospitals?—No. In reference to that I only wish to say that it might raise a question as to the economies of an ambulance service.

453. I quite see that if you re-arranged your hospitals you might have to adopt a new system altogether?—Perhaps you will allow me to put this illustration, which I have here.

454. Certainly.—Manchester is now rebuilding its Royal Infirmary with its 300 beds or upwards nearly two miles from its original site in the centre and busiest part of the city. I understand that this has been rendered possible by the greatly increasing efficiency and the extension of the ambulance service in this city. The old site of the infirmary was sold to the Corporation of Manchester for £400,000, the difference in value resulting from the exchange being that represented by £3 per yard as compared with £20, which is the estimated present value of the original site. In general hygienic conditions, also, the new hospital will vastly profit by the exchange. Newcastle-on-Tyne, in the erection of its new Royal Infirmary, has proceeded on these lines. I only got that information and those figures because I thought they might interest you as bearing on the question of street accidents.

455. Should you prefer transferring a person who is injured in a busy street in Manchester, for instance, by ambulance for two or three miles to a hospital outside the city, to conveying him to a hospital in the city within, say, ten minutes? Which system would you prefer of those two?—With a perfect ambulance system I should not object to the longer distance in the slightest.

456. Your conception really of an ambulance service is an ambulance fully furnished with all necessary requisites and a skilled person attending it?—Yes.

457. That seems to be an essential part of your scheme?—Yes. I do not mean a medical man necessarily.

458. No, but a person highly skilled in first aid?—Yes. If heavy motor omnibuses in the way of business can pick up and set down passengers and cover 10 miles an hour in traversing London, as I understand is the case, it would not be difficult to indicate on a map how, from a few centres or depots, every part of the London County area might be reached by a motor ambulance capable of removing one or two or even more patients with an attendant in a reasonable time.

459. You hardly contemplate their going round picking up people?—No, but there is the possibility of going from one place to another in a very much shorter time than there was years ago.

460. No doubt.—We shall be better able to judge of the possibilities relative to range and speed of these vehicles

when the City of London has had its new system at work, which will shortly be the case. It was rather with reference to that point that I was speaking. Passing on to consider how a large area such as the County of London may be better provided for in the case of street accidents, it will be well to ascertain what information can be obtained from the experience of other cities. Though London is unique in size and the vastness of its population, valuable information may be obtained from these sources. In the first place it is advocated that a trial should be made of automobile ambulances on a sufficient scale within the district known as the County of London. This embraces an area of 75,000 acres, with a population of not less than 5,000,000 people. Its extremes in extent may be stated approximately as from 12 to 16 miles. It might be thought that in towns and places which are well supplied with hospitals the necessity for motor or horse ambulances does not exist. This, however, is not the case. For, apart from the consideration as to whether the journey from the scene of the accident to the home or hospital is short or long there are other circumstances which in many instances may indicate the necessity for an ambulance service for London including a certain proportion of motor or horse drawn conveyances. There are numerous cases where it is essential that the injured or ill person should have the assistance and comfort of someone skilled in first aid within the vehicle, as in instances of wounds complicated with the risk of sudden and serious hæmorrhage occurring, or the displacement of fractured and dislocated bones. It is often found impossible to deal with injuries to women in the streets without the privacy that is afforded by a closed vehicle. For the want of adequate provision of this kind limbs and lives have been sacrificed and slight through sudden illness converted into serious ones. Coroners and juries have not infrequently pointed this out. The unsatisfactory results which were often observed where persons were carried to hospital on litters on wheels and stretchers, have, in many instances, been used as a strong argument in favour of adopting more improved appliances for this purpose. Take a case in point of which I have a personal knowledge of many years' standing. There was no other reason than this for superseding litters and more primitive conveyances by horse ambulances as happened in Liverpool in 1884. The experience of some large cities may thus be referred to, not only as affording information as to the reason that led to the adoption of motor or horse ambulances in addition to or in place of hand litters for street accidents, but further as providing some data upon which an experimental trial may be made of the former over a proportion of the London County district. Commencing about 1884 (I go back now to my Liverpool experience) under the administration of the then Head Constable, Captain Nott Bower (now Commissioner of Police for the City of London); a horse ambulance service for Liverpool was organised which has continued to give satisfaction to the public and the medical profession of that city. Further, it has served as a model for street ambulance organisation in other places both at home and abroad. Turning to the last Annual Report (that is 1906, the one just issued) on the Police Establishment of Liverpool (I will put that report in) Mr. Dunning the present Head Constable, states under the heading "Services rendered to the Public, Ambulance work":—"Number of turns-out (in 1906) 2,960." There are seven fully equipped Police Horse Ambulances stationed as follows: Royal Infirmary (day), Royal Southern Hospital (day), David Lewis Northern Hospital (day), Stanley Hospital (day and night), Central Fire Station (night), Old Swan Police Station (day and night), Lark Lane Police Station (day and night). In addition it may be mentioned that out of the police force of this city, which consists of 1,971 men, 1,805 hold certificates of efficiency from the St. John Ambulance Association. From a personal knowledge of both cities I can state that London, so far as ambulance provision for street accidents is concerned, is now much in the same position as Liverpool was in 1884 when to remedy a condition of inefficiency and in deference to public opinion and representation, the present Horse Ambulance Service for the streets was substituted for other methods of conveyance. Liverpool (exclusive of Bootle and the river basin) includes an area of 16,500 acres. For this area (16,500 acres) Liverpool has 200 call boxes which serve fire brigade, ambulances, and patrol waggons. If Liverpool can be efficiently ambulated by seven horse-drawn vehicles, why should not a trial be made over a corresponding area with motors in London County? This would include a considerable portion of what may be called the accident area of London, and the general conditions would be somewhat similar within these respective areas in the two cities, excepting, of course, the difference in the power used. Such a trial, even if it involved covering an area equal in size to Liverpool, need

not involve a very large expenditure either on capital or upkeep. As Liverpool is ambulated by the police and by the fire brigade (which is a department of the police) in the matter of supplying vehicles, horses and drivers, and as the Liverpool hospitals provide the necessary "first aid" which accompanies the ambulances free of charge, it is not easy to state precisely the cost of this mixed service to the ratepayers.

461. What is the first aid that Liverpool provides—a medical student, or what?—A medical student to commence with. Eventually they appointed to each hospital which had an ambulance attached to it a house surgeon for looking after the duties connected with the ambulance, but it came to my ears that they had abandoned that plan of providing a medical man, and so I wrote last night to enquire as to the truth of it. I know that for some time their seven ambulances really had either an advanced student or a medical man

462. You are not certain whether that is being continued?—No, I only wrote last night to get at the facts.

463. Of that we shall probably hear?—If, based on such an experience, a trial of motors, for instance, was made to a limited but sufficient extent in London County, not only might it be made to comprise the general hospitals of London to which separate districts would be assigned, but it could be made the basis of an extension if this proved necessary. In organising any scheme for dealing with accidents occurring in the streets it would seem appropriate that the ambulances should either form a department of the Police administration of London, as in the City of London, Liverpool and other places, or be worked in cordial co-operation with the police. The are several reasons why this should be. The police are as a rule the first to take charge of the injured person or persons and to apply what is known as first aid. This duty, from abundant testimony, they appear to have discharged on the whole with credit and often with marked skill. Technically speaking, accidents and medical emergencies happening in the streets are, as it has been stated, regarded as obstructions to traffic requiring prompt removal. To do this, I understand, the police are legally entitled to incur any reasonable expenditure necessary, which is chargeable to the rates. Boroughs and Councils not having police forces have no legal powers of the latter kind, and are compelled to seek Parliamentary enactments for this purpose, as was the case recently with the London County Council, and without such powers they were unable to proceed with their ambulance proposals. As I am advised, no such necessity applies either to the Metropolitan or City Police, for the reason just stated. It would not be desirable to place the removal of street accidents or casualties and their care under authorities engaged in the conveyance of fever and other infectious disorders by their ambulances or employees. For, quite apart from any possible chance of contagion, there would be a strong liability to a feeling of prejudice being aroused on the part of injured persons who had occasion to use street ambulances. In organising such a scheme as is suggested, a single garage (this is assuming that the question of motors is taken up) placed somewhere in the area where land and property are now of the highest value would suffice for the automobiles when off duty. The stations, wherever the ambulances may be placed when on duty, might be little else than shelters. The equipments and necessary appliances for the ambulances relative to their medical work might be obtained from the central depot of the St. John Ambulance Association. It is presumed from the action taken by the City of London, and from other information, that of the two kinds of rapid transit ambulances, as they are called—motor or horse-drawn—London has declared for the former. There is something to be said in favour of both forms of propulsion or traction. Horse ambulances have already proved to be a success in many places, whilst it may be said that automobiles are still on their trial. I have had two or three letters with reference to that from America, and they do not speak of their automobiles as an unqualified success.

464. What is the difficulty?—Machinery

465. Breakdowns?—Yes. The man, who is a very experienced man, who wrote to me said that they hoped to get over the difficulty. I thought it was only right to mention it. He seems hopeful that it will be done.

466. We have not had evidence of that up to the present?—It has been urged that, as elsewhere, the Fire Brigade of the London County Council, with their horses and drivers should provide traction power for this purpose. On the other hand, it is stated that the Brigade has quite enough to do in looking after its own business. The number of ambulances on duty during the day and the night

respectively would have to be determined, as the calls for assistance during the latter are less frequent, whilst the streets are freer for the movements of the vehicles. It will be seen, in the Liverpool area, that of the seven ambulances employed only four are on duty during the night, that is to say four ambulances suffice for 16,500 acres. Though the driver or chauffeur of the ambulance might on an emergency be able to assist in applying first aid on his arrival at the scene of an accident, it is better that arrangements should be made for the presence of a person having a knowledge of this work to return in the ambulance with the patient to the hospital or home. The want of this provision would seriously minimise the value of this mode of conveyance. An authority which would convey an injured person, or one taken suddenly and possibly seriously ill in the streets, to the hospital in a closed ambulance which provides for an attendant being included might possibly, in the absence of such assistance, be liable to censure should the patient succumb before his arrival at his destination. I knew of an instance where this happened. A brief reference will be made to non-emergency kinds of ambulance service. Up to this point I have been speaking of the emergency kinds. For the transference of invalids from place to place, where the calls are not urgent and can be arranged for beforehand, London appears to be well and efficiently supplied with the most approved form of vehicles and attendants skilled in the work. By these, invalids and feeble persons have been conveyed in comfort and with expedition long distances, involving journeys both by land and sea, and at a reasonable cost. Then again the means for removing persons suffering from infectious disorders of all kinds from home to hospital requiring strict isolation on the journey, are excellently provided for by the numerous ambulances built for this special purpose and used by the Metropolitan Asylums Board. These, however, must not be reckoned or taken into account as having anything to do with the emergency service for dealing with street accidents.

467. But there is no objection to their being used if they can be used for that, is there?—So long as they are not infectious.

468. Yes, so long as they are not infectious?—No, certainly there is no objection.

469. We have been told that they are used for these purposes?—Yes.

470. And that there is perfect co-operation between the authorities so far as they go?—Yes, so far as they go. So long as infectious cases are put aside there is no objection.

471. Yes, certainly.—Of the litters on wheels which constitute so far the largest proportion of the 500 ambulances recently stated as being available for various purposes in London, I can only repeat that in their general employment they do not fulfil the conditions essential in a service that undertakes to deal at the call of the telephone or otherwise with men, women and children suffering from accidents.

472. Have you anything to say about the litters themselves that are used in London? Have you examined them?—Yes, I have seen them frequently.

473. What is your view as to those?—They are open to the objection that all hand-wheeled ambulances are, which I will refer to later on, if I may dwell upon it then.

474. Yes.—Upon this point the medical profession of London has furnished unequivocal evidence. If you want the evidence you will find it in that book, "The Ambulance in Civil Life"—that of such men as Mr. Bowlby, Mr. Golding Bird, and other hospital surgeons. It contains the first paper that I published on the subject, and it has since been kept up to the mark by recording everything of interest connected with the matter. It is not uncommon to hear that persons seriously and fatally injured in the streets have been considerably over an hour, or even much longer, before their removal to hospital was effected by the litters or hand-wheeled ambulances now in use, partly by reason of these being unfitted and unprepared for the purpose (not fitted up), and for the want, not of telephones, but of telephonic organisation. Such delays often cause unnecessary interruption to street traffic. I do not believe that there are any other rapid transit vehicles in the entire Metropolis fully prepared and ready for immediate action in answer to a street call by telephone or otherwise, except the Invalid Transport Corps Service of the St. John Ambulance Association at St. John's Gate, and the City Police Automobile Ambulance of quite recent date. It is to be hoped that any plan for the better ambulating of London streets will not close the door against that private munificence which is not unfrequently bestowed on undertakings promoted for the public benefit

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Pecuniary gifts from citizens have founded beds in hospitals or in other philanthropic institutions, and lifeboats for the protection of those who go to sea, and there seems no reason why this kind of assistance should not be extended, as Mr. Bischoffsheim has already done, to those who meet with sudden calamities in the streets. Such a gift might take the shape of a modernly equipped ambulance. Organisations of this kind might also add to our volunteer resources, and in case of war be utilised for the removal of wounded soldiers. There is a little postscript which I have to add, and then I finish my statement. May the 30th. —In going over some figures relating to the distances which injured and ill persons had to be conveyed to hospitals in London in 1906 which were presented by the Commissioner of Police, Sir Edward Henry, it is stated in return No. 3 that, out of 8,002 accidents occurring in 1906, 2,435 were a mile or more from the nearest hospital, and of these, 206 were not less than 3 to over 7 miles distant.

475. You are aware, I suppose, that he is not speaking of London here?—What is he speaking of?

476. The Metropolitan Police District, which is a different thing?—Yes, I am much obliged to you for that, I am only speaking of the distances with regard to the ambulances.

477. When you get into Hertfordshire and the country districts of Kent and so on, it is a different problem altogether, is it not?—Yes. You are not going to include those, I suppose.

478. I do not know. The Metropolitan Police deal with the whole of the Metropolitan Police District?—I will make a note of that point.

479. This seven miles and three miles and so on, generally refer to places perhaps 20 miles distant from London. That is the sort of thing I daresay you are not so familiar with?—No.

480. When I say 20 miles that is rather too much—but a considerable distance from London?—I was wondering what kind of ambulance they would have in the three to over seven miles cases.

481. We had evidence about that last time?—Were they litters?

482. No—The evidence of the Superintendent, who has a more or less outlying division, for instance, is that about half the people are conveyed in ambulances?—I rather assumed that they were brought in litters.

483. Yes, I know; but that is an assumption which I daresay is not quite correct with regard to these distances, but with regard to inner London it is correct enough?—It will be obvious that an unnecessary amount of time must have been lost, that is, on the assumption that they were litters, in the conveyance of some of these persons.

484. It may lead to a fallacy to argue from remote country districts, as if they showed what was the practice in London?—Quite so. There was only one person, I see, that was conveyed over seven miles.

485. If you look at the districts you will see what police district that was in. You must do that if you are going to make use of those statistics?—I am only making use of them in a general way.

486. Yes, but there is nothing so dangerous as statistics if you do not look at them all round?—Then again, it was stated that out of 2,853 cases of sudden illness in the streets in 1906 no less than 634 happened at distances exceeding one mile from the nearest hospital, out of which 101 persons had to be conveyed over three and four miles. That is rather a long distance for a litter. In conclusion, I venture to think that the better ambulancing of London will probably be effected by a process of evolution or trial commencing with matters about which there is at the present moment little or no difference of opinion. It would not be difficult to indicate some of these. For instance, the necessity for improving our means for dealing with street accidents where the ambulances at present used have to travel over considerable distances from the place of accident to the hospital is apparent. This would need improved methods of signalling and vehicles capable of greater expedition, such as a limited number of motor or horse ambulances. Again, better provision should be made for dealing with accidents and casualties to women so as to secure for them greater privacy and comfort. In the third place provision should be available for permitting an attendant to travel with the patient in some instances of the most serious forms of injury. The necessity for this would most frequently be determined by the medical man who probably would be called in on the spot and whose direction as to the need for a motor or horse ambulance should be immediately signalled to headquarters. Lastly, the wise and

fruitful policy pursued by the police department in having its force educated in "first aid" should be encouraged in every possible way so that the public may learn to appreciate the object and value of an ambulance as compared with cabs and carts and other, possibly, unsuitable methods of conveyance after an injury or a breakdown. In these and other ways progress will be made as occasion suggests in our present methods, which, in the course of time and by experience, would permit of further and steady development without resort to any violent changes or large expenditure in money relative to the great importance of the work. I venture to think that I have sufficiently illustrated that there is an economic aspect to progressive ambulance organisation which is not always, at first sight, apparent.

487. I suppose that your hospital experience has been more in Liverpool than in London?—Yes. I have not been actively engaged in hospitals in London.

488. Have you considered the special conditions of London. In regard to the general propositions which you have laid down, probably, as you say, there will practically be no dissent; but when you apply those to the conditions of London you have to consider the special circumstances?—Yes.

489. I should like to take you through the history of an accident. Supposing an accident occurs in a crowded part of London. The person who is on the spot is a police constable. He is the most available person, is he not?—Yes.

490. Therefore I rather gather from your evidence that you agree in the view that it is a necessity that the duty should be in the first instance imposed on the police constable of doing what is necessary on the spot?—I concur entirely.

491. As soon as the accident occurs if possible?—Yes.

492. At all events as soon as he sees the crowd and sees what is the matter. He is the person who can act promptly and the only person at all in an official capacity?—Certainly.

493. Assuming that you have motor ambulances or hand ambulances or other vehicles available, some responsibility must be thrown upon him of selecting what the mode of conveyance should be?—Quite so.

494. Would you have it as a general instruction to the constable that he must send for an ambulance, and would you provide ambulances to such an extent?—I think that the constable should exercise a certain amount of his own common sense in the matter.

495. That is the inevitable answer it seems to me. He must exercise discretion?—Yes.

496. And if he has choice of vehicles he must choose as to which vehicle he employs or whether he lets a man walk off on his own legs?—Suppose a man is knocked down or tumbles down and is picked up and says "Oh, my arm is hurt," or something of the sort, generally the best thing is to walk him straight to the hospital.

497. Asking somebody to go with him?—Yes, the constable does not see any blood about and does not see the necessity of using first aid there.

498. Carrying it further, supposing that the injured person is so disabled that he cannot very well move, then we will assume that the constable has a choice between the cab and the ambulance?—Yes.

499. I will not say what sort of ambulance at the moment, but he has the choice between sending him off in a cab, which is the easiest thing in the streets of London in many cases, and sending him in an ambulance?—Yes.

500. Would you impose any prohibition on sending a man off in a cab?—If a man is observed to be injured in the legs he should not be sent off in a cab.

501. That is, as you know, the instruction given to the police now?—Yes, I believe it is, and very wisely.

502. In the case of broken legs?—Or bleeding from the legs.

503. Or if there are internal injuries, supposing that he had been run over by a heavy vehicle or anything of that sort?—Yes, or looks faint.

504. Is it possible that constables—men of that sort—can be sufficiently instructed in first aid?—I believe it is.

505. You think it is?—Yes, I think so.

506. Therefore you think it is quite possible to give them certain general instructions which will enable them to say approximately whether they ought to send a man off in a cab or whether they ought to wait for an ambulance of some kind?—Yes, I think it is possible—with a tendency

to err on the right side, if in doubt at all, and to send him in an ambulance.

507. As the Commissioner of Police pointed out to us the other day, a constable is in a position of some little difficulty. He has an excited crowd round him who very often say, "Why do not you send the man off in a cab?"—It requires a good deal of firmness—I admit that.

508. I wanted only to point out that practical aspect of it?—It is a very practical aspect and not an easy one always.

509. No. Assuming that the constable has such instruction that he can really assimilate and act on, you would leave him the discretion of saying whether he ought to send the man off at once in the handiest and most available vehicle or ought to wait for a properly equipped ambulance?—Yes, I think so.

510. Assuming that he exercises that discretion properly, and assuming he thinks that it is too severe a case to send off in a cab, he waits for an ambulance?—Yes.

511. You would attach very great importance, I gather from your evidence, to the rapidity of getting a man to the hospital?—Yes, but not at the expense of a risk.

512. That is really another way of saying the same thing. If the accident is a very serious one it is better to lose a few minutes in waiting for a proper ambulance than to take a risk?—Yes, far better.

513. You have already told us that you think those cases may roughly be defined?—Yes, I think they may.

514. We will now deal with the class of cases where the police constable ought to have an ambulance available if there was a proper system?—Yes.

515. Those are really the two points. At present, according to the system in London, he has to send anyone he can get—another constable if there is one at hand?—Yes.

516. Another constable would probably be on the spot very soon. I do not know whether you saw the evidence the other day from the Superintendent of the Holborn Division, which is one of the divisions where most accidents occur?—I did not see that.

517. He put it that the average time that he had made out of getting an injured person to hospital or infirmary was five minutes in that crowded division. I will refer you to question 272. "The average time in getting people to hospitals if they are taken by cabs or other vehicles we find is about five minutes." "From the time of the accident?" is the question. "Yes, because they are taken up at once, and taken straight away to the hospital; whereas in the case of those who walk they get there in about six minutes?"—Is that for distances of two miles?

518. No, he takes the Holborn Division, and gives the available hospitals?—It greatly depends on circumstances.

519. Of course it does. That is just what I was coming to. When you lay down a general proposition you have to consider it in reference to the special circumstances and places where hospitals are more remote and so on?—Yes.

520. Question 260: "Now as to the availability of the ambulances; how long does it take generally to get an ambulance, after the happening of an accident?" His reply is "I made a calculation that out of 325 cases it averaged, to get the ambulance and get the person to the hospital, 15 minutes."—In what proportion of cases?

521. He took 325 cases. He does not say how he took the 325 cases?—It would hardly apply to the majority, would it?

522. It depends upon the proximity to the ambulance and the proximity to the hospital?—Yes, of course.

523. That is with reference to a crowded part of London. Now take the evidence with regard to a remoter part of London. We have the evidence of a police superintendent who had the Kilburn division. Will you look at question 345: "Then you make a considerable use of ambulances in your district as compared with other vehicles; there are a larger proportion of persons conveyed by ambulances to hospitals and so on than by other vehicles?" The reply is "I should say about half." His division includes Harrow, Pinner, Ruislip, Harefield, Northwood, the whole of Paddington, and so on. It goes quite into the country. You will see the places mentioned above. —Yes, I see that.

524. Question 348: "And can you say how long it takes to get an ambulance as a rule?" And the reply: "Within that three to four-mile circle I make the average time 25 to 30 minutes from the time of the accident until we can

get the case to the hospital or infirmary; that is the average time; some would take a little longer, some probably less." I have called attention to one very crowded district and another district part of which is crowded and part of which is more or less country?—It does not entirely hinge, in the selection of ambulances, on the speed.

525. No, but I am only on one point. Now I will come to the other with regard to the character of the ambulance. Do you think it essential that an ambulance (I am not now saying whether it is motor or horsed or anything else) should have the necessary apparatus for dealing with severe cases?—Yes.

526. Is it necessary, in your opinion, that there should be a skilled person?—I think that there should be a first-aid person in every case.

527. Skilled?—Yes.

528. A person of the status of a hospital student?—Not necessarily.

529. A more skilled person than a police-constable?—We see a number of artisans competing for prizes at ambulance competitions and they include men of the grade of police-constables, and they do their work most excellently.

530. It would entail always having a person ready at the ambulance station to go with the ambulance?—Yes.

531. You think that the ambulance should be equipped in that way?—Yes, I feel very strongly on that point.

532. You think that a police-constable attending to a case on the spot and using first aid according to his lights and sending the person off in an ambulance is not sufficient?—Not in some forms of severe injury.

533. Then you come back to the police-constable who uses his discretion and says: "I must have an ambulance with a skilled person"?—It turns very largely upon the question of signalling, if I may say so. A constable comes up to a man who has been knocked down, say, by a tramcar. He sees that his leg has been practically run over and that he is bleeding. A doctor comes in and says: "How far is the hospital?" "A mile and a quarter." He says: "You must telephone for a horse ambulance or motor ambulance to come down, and he must be put in and a man sent along with it."

534. Would that be better than the constable, who obviously may see that the man is seriously injured, applying first aid?—He might certainly apply first aid; there is no reason why he should not do that and put him into the closed vehicle and go with him if necessary.

535. The instructions are that in a case of that kind they should send for an ambulance and send for a doctor?—He should really telephone or communicate in some way or another, as I presume they will do now in the City, now that they have their ambulance calls all over the City. They will telephone for the motor ambulance to come, and it will come with an attendant and it will take the injured man away, properly attended to as far as first aid is capable of doing it.

536. The City has only one square mile to deal with?—Yes, we shall have to apply some degree of multiplication, and it is for you to judge what the degree of multiplication shall be.

537. Yes, it is for us to judge how far it is practicable. I put these questions to you as practical questions. Really it comes back to the discretion of the constable in the first instance?—You do come back to the discretion of the constable in the first instance.

538. Therefore it is extremely important that the constable should be trained as far as possible?—Yes.

539. Do you think that he gets sufficient training now?—I think he gets fairly good training now, and it should be encouraged in every possible way. That will tend to great improvement and to remove what is complained of at the present time.

540. With regard to what I have read to you about the time it takes in getting a man to hospital, is there really such a great advantage, in crowded parts of London, in motor or horse ambulances?—I am quite sure there is.

541. You think so?—I have in my time seen a great deal of need for it.

542. I am on the question of speed and the question of proper first aid and of a skilled attendant. You put it very high when you say that you think the hospital ought to be brought to the man, when the hospitals are so closely at hand?—It is only a figurative term to some extent. I mean to say that the various things necessary for commencing on the spot antiseptic principles should be part

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and parcel of it. It is upon those points that I say that the hospital ought to be brought to the injured. The application of antiseptic principles ought really to begin at the very moment of the accident.

543. In London generally there is the opportunity of getting some medical assistance close at hand?—Yes, but I think that the policeman should so far as possible be encouraged to do everything that is proper, biding the arrival of a medical man.

By the Earl of Stamford.

544. I should like to have your opinion upon the merits or demerits of the police and other wheeled ambulances as now used. Would you wish to see them superseded altogether by a more quick and efficient system?—I should like to see the motor or horse ambulances supplementing the litters very considerably.

545. You feel that they would still have their use?—Yes, I would not wipe them out.

546. Accidents vary greatly in severity?—Yes, they do.

547. Some cases might be dealt with by walking, some by cab, and some by these wheeled litters, and I suppose a comparatively small proportion would require the services of faster ambulances?—A comparatively small proportion. I do not believe they have entirely abandoned litters in Liverpool.

By the Chairman.

548. That is a question which I intended to ask?—They are largely supplemented by additional means of conveyance.

By the Earl of Stamford.

549. You told us that, so far, very little has been done in the way of motor ambulances anywhere, owing to the stage which motor traction has reached at present?—The experience of the City will be an interesting one and, possibly, an instructive one.

550. Yes. I feel that it may be of the greatest value. You do not happen to know whether in the United States they have got as far as motor ambulances?—I know they have one or two in New York, but I must say that they have not been a very great success. Their horse ambulances are a perfect success.

551. With regard to Paris, what do you say?—Paris I do not know very much of. I have had some communication on the subject, but I have not studied the question there.

552. There, I hear, matters are in an experimental stage and that they are going to make experiments in motor ambulances. With regard to the importance of a doctor or someone skilled in first aid accompanying an ambulance, upon which you have laid great stress, I suppose that you will be hearing, shortly, from Liverpool and will let us know, and we shall get evidence from Liverpool with regard to why it has been apparently discontinued?—I shall be very glad to send on to you any information I can get.

553. My information, five or six months ago, or about that, was that about 40 per cent. of the ambulances in Liverpool go out without a doctor, and I daresay that there has been further diminution since that time?—No doubt I shall be in a position in a day or two to let you have that supplementary evidence.

By Sir William Collins.

554. For how long have you lived in London?—18 years.

555. You have studied the ambulance question both in Liverpool and in London?—Yes.

556. Is there any such essential difference between Liverpool and London that, in your opinion, would make it impossible to adopt the Liverpool system in London?—I do not see anything either in the streets or anywhere else. It is a question of difference in size, that is all.

557. Has the municipal ambulance become, as it were, a recognised institution in Liverpool?—Yes. You see it all over the place.

558. Is it common to see street accidents, or cases of sudden illness, conveyed to hospitals in Liverpool by cabs, carts, or hand litters?—No. Of course, such cases occur, but the people know now about the ambulance and they are quite familiar with it and have got into the way of using it. I suppose it does a much larger proportion of the work.

559. I mean has the institution of horse ambulances, or prompt methods of removal, effected a change in the mode of transmission of injured persons to the hospital?—Yes. I quite understand you now. It is looked upon as one of the institutions of the City to send for the ambulance.

560. Are any instructions given to their police as regards the use of the ambulance?—Yes, I believe so.

561. You spoke of the Red Cross being put up on the doors of certain houses to indicate, as I understand, places of call for the ambulance or where the telephone could be used for summoning an ambulance?—That has been done since I left Liverpool. From what I understand from my communication with Liverpool, a little red star is put on certain doors where people wish it to be with the understanding that if a policeman wants to communicate with the Central Fire Office, where the orders go for the ambulance, he is at liberty to do so.

562. You are President of the Metropolitan Street Ambulance Association, are you not?—Yes, I have been since its initiation. The society was formed before I joined it, and they asked me to take that place.

563. You are also a member of the Executive of the St. John Ambulance Association?—Yes.

564. I see that in the proof of the St. John Ambulance Association report that you handed in, they state that much still remains to be done in the other portions of the Metropolis than the City, which are not under the control of the City police authorities, and they, apparently, go on to welcome the appointment of this Departmental Committee and say it has been nominated none too soon. So may we take it that these voluntary associations, such as that of which you are a member of the executive, are looking forward to some improved and amplified system?—They are.

565. And would welcome it?—And would welcome it.

566. Has the Metropolitan Street Ambulance Association approached any of the public authorities? I think you said that they had been on deputations to the London County Council. Have you approached the police?—The Police Committee of the Corporation of London?

567. No. The Metropolitan Police?—No. I do not think we have had any communication with the Metropolitan Police.

568. Have you not entered into communication with the Metropolitan Police?—Not in the form of a deputation, I think, Sir William. I do not know why it was not done.

569. Is that because you suggest that the authority for the ambulance service in London should be the London County Council?—Our idea was that the London County Council were taking the matter up.

570. The resolution at your public meeting which was moved by the President of the Royal College of Surgeons, Sir John (then Mr.) Tweedy, stated: "That, having regard to the excellent ambulance services organised by municipal authorities elsewhere, this meeting is of opinion that the London County Council is the body by which such service should be provided and maintained." Is that your idea?—Yes; that was the view in 1904 when we approached the London County Council.

571. Have you approached the Metropolitan Asylums Board?—We have not.

572. Have you communicated with members of the present London County Council on the subject?—A circular was addressed by the Secretary of the Metropolitan Street Ambulance Association at the time of the last election, directing attention to the important work which the Metropolitan Street Ambulance Association had been for some years engaged in and quite a number of favourable answers were received from successful and unsuccessful candidates of both sides of politics.

573. We have been told by some of the witnesses that the doctors called to a street accident sometimes, and even frequently, advise the use of cabs for the removal of such cases to hospitals. Do you agree with that?—No. I suppose it is because they do not know of any special provision being made.

574. Have you yourself in London witnessed the arrival of injured cases at hospitals?—I have quite incidentally when I happened to have been there, but I have not studied it, as I said before.

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575. You cannot say whether it is the common experience of the hospital authorities to find that the injured patients arriving at the hospitals have arrived there within five minutes of the accident?—I could not say the time; there are many others who will be able to give you information upon that of far more value than I could possibly do.

576. With regard to the choice between improving the means of rapid removal to hospital and improving the first aid to the injured, is not the one to some extent in inverse proportion to the other? I mean, would not the need for improving the first aid be less if the facilities for rapid removal to hospital were greater?—Yes, it would, certainly.

Mr. H. THOMSON LYON, called in and examined.

By the Chairman.

577. You are Chairman of the Ambulance Committee of the Metropolitan Asylums Board?—Yes.

578. And Chairman of the Highways Committee of the Westminster City Council and Guardian of the Poor of the Westminster Union?—I am. I may say that by profession I am an engineer and that I have had very considerable experience in carriage building and have designed all the motor ambulances of the Metropolitan Asylums Board.

579. Will you take the points as you have drawn them up in your *précis*? You wish to state the way in which you consider that an effective ambulance service for London could be established and maintained?—I have devoted very considerable attention to this matter. I am now, for the third year in succession, Chairman of the Ambulance Committee of the Asylums Board, and in that position I have, I may say, unique opportunities for studying the question. In fact, there is no analogous position in the world. We have to deal with the removal of something like 50,000 persons per annum.

580. Those are from their homes?—That is the total conveyance. The total to the hospitals would be about 24,000.

581. And are those removed in ambulances?—Yes.

582. From their homes?—From their homes.

583. Strictly speaking we are not concerned with that. We have to deal with the removal of persons injured in street accidents. Your ambulances are used occasionally are they not, by the police?—They are. I have personally given great attention to this portion of the work, and by a number of minor improvements and attention to details we have run the number of cases up enormously.

584. You mean the number of cases in which your ambulances are used for that purpose?—Yes, for what we call "private removals," that is to say non-infectious cases. Three years ago we did about 260 cases per annum, when I became chairman. This year we shall do nearly a thousand.

585. Does that include cases of street accidents?—It includes cases of street accidents.

586. And illness in the streets?—Yes, if summoned.

587. Now perhaps you would give us some account of your system, because it is a matter of general interest?—The Metropolitan Asylums Board has six ambulance stations which are in use, and they are connected telephonically day and night with the Exchange or with the head office. At night they are connected direct through to the exchanges. Cards giving instructions have been circulated in very large numbers to all medical men and public authorities, but no specific mention is made of the fact that we remove surgical or medical or accident cases, as we have no powers whatever to deal with these. It is getting very generally known, however, and the demands are practically doubling every year. We can turn out an ambulance within three minutes in the day-time, and, of course, a little longer at night.

588. After getting a summons?—After getting a summons. In an accident case we can generally get it out in two minutes. We are occasionally summoned by the police for accident cases, and the police have always paid us for that.

589. Your charge is 7s. 6d. ?—7s. 6d.

590. I suppose that you would always act on a summons by the police, would you not?—We would act on the summons of anybody.

591. Have you any figures that show what number of summonses by the police you have had?—They are very few in number. One reason is that very often the police merely tell the people to come, and the people come themselves. I have various instances before me of cases in which the police have called on us or sent people to us. I

find, on the 25th December last year, a pure police case. The reason the police came to us was this: the police ambulance happened to be engaged. A man fell down in the street and broke his leg. The ambulance was applied for at 8.15 a.m. to remove John Ring from Bessom Street, New Cross, where he had slipped down and broken a leg. The ambulance left the station at 8.18, three minutes afterwards, and arrived at Bessom Street at 8.20. It left with the patient ten minutes after. I suppose they had not completed the splinting. It arrived at Guy's Hospital at 8.51. The charge was paid by the police.

592. That is a good illustration. Have you any others of the same kind?—Here is one which is practically a police case, but the application was not made by the police direct. An elderly lady slipped on the steps of Fulham Library and broke her thigh. A doctor was passing and she was carried inside and attended to. A policeman who witnessed the occurrence stopped a clergyman who was on a bicycle. The clergyman at once rode off to the Western Ambulance station, and he arrived there at 1.38. Two minutes after the ambulance left, and it arrived at the Fulham Library eight minutes afterwards. I quote this instance because they would not have known what to have done except the policeman happened to know where to send for the ambulance. I may say generally that the police, when one of our stations happens to be in their particular district, know all about it and take an interest in the matter, whereas if the station is not situated in their district, but may be close to, they seem to take very little interest in it. There seems to be a tendency, which will be got over later on, for the police to confine themselves to a knowledge of their own boundaries rather than of their own neighbourhoods.

593. You mean than of other police divisions?—Than of other police divisions.

594. Do you often get summonses otherwise than through the police in cases of that kind? What sort of proportion of those cases come through the police?—A very small proportion come through the police. I have an instance of a woman who fell out of a window, I think. The police came and attended to the case, and they then brought the husband round to the station, which was close to, and instructed him what to do, and he paid the fee, and the woman was taken off. We suspect that a large number of cases are sent by the police, but we do not know.

595. You sometimes get them direct from the police themselves?—We sometimes get them direct from the police themselves.

596. The people probably get their information from the police as to what to do?—Yes.

597. So that your figures would not show what the police action in the matter is?—No.

598. At all events, are those cases which you have given to us fair specimens of the time?—Yes. They always practically turn out under three minutes in accident cases. They cannot turn out quite so fast with the motors because we have few of them and we cannot keep the men ready for duty as we can in the other case, but the ambulance reaches its destination sooner.

599. How long have you had motor ambulances?—We are now in our second year.

600. What is your experience of them compared with horse ambulances?—They make a most enormous difference to the work.

601. Because they are more rapid?—In many cases, diphtheria cases especially, where there is necessity for operation, a minute is a matter of life and death, and also occasionally, with regard to cases for the hospitals, of accident.

602. How are your ambulances furnished? Do you send an attendant with the ambulances?—Only an attendant to help to carry the person.

603. No skilled person?—No skilled person

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604. You would not have a medical student available of course?—No. We simply occupy ourselves with the transport. What is very important is the skilled handling and removal of them from the bed on to the stretcher and getting them down the stairs. That is one of the most troublesome jobs, especially in cases in a London house. It is exceedingly difficult to work a stretcher.

605. That is where they are taken from their homes?—Yes. We impress the need for careful handling on our men, and they are very skilful in that way.

606. In the case of street accidents, do you send anybody?—We could not send anybody. We have no one to send at all.

607. No one but the driver?—And the attendant, who is simply a porter.

608. To assist in carrying?—Yes. In practically every case where we are called I may say that the doctor has been called in already.

609. Have you formed any opinion at all from your experience as to the use of horse or motor ambulances for taking the great bulk of street accident cases?—Generally I am of opinion that for the centre of London both for speed and efficiency the hand ambulance cannot be surpassed.

610. When you get to greater distances from hospital or infirmary and so on, it is a different point?—There, taking the ring of outlying stations and the distances, it is essential to have horse ambulances.

611. I suppose it is in those parts of London that your services are principally asked for?—Yes, in those parts of London in accident cases.

612. I was referring only to accident cases in the remoter districts?—Our hospitals, being infectious, are naturally situated on the outskirts, round the town in a ring. The ambulance stations have to be next door to the hospitals so that the nurses may be drawn from them; therefore the two things dovetail very well. We are in the position of being where we are wanted.

613. In answering a summons with regard to accident cases you are really going outside your functions?—Entirely. I must say that this year for the first time the Local Government Board auditor has intimated that the Local Government Board does not propose to surcharge us with the expense of doing this work.

614. That is as near an authorisation as you can get?—The work is entirely profitable, because we do not keep a single extra man or horse for it, and last year we did 424 cases and only got applications for remission of payment in four cases. This year we have done 375 cases already since the 1st of January, and we have had no application for remission of payment.

615. Have many of these cases been paid for out of the Police Fund, do you know?—A few of them.

616. I see that your notes cover one or two other points. Do you wish to add anything to what you have told us?—I should very much like to deal with a subject in which I am specially interested, and that is the utilisation of the general Poor Law ambulances throughout the Metropolis.

617. For what?—For accident cases and surgical and medical cases. I have noted the number of Boards of Guardians, and out of the 31 unions you will see that 26 admit having horse ambulances. We were unable to get replies from one or two, such as Poplar, and so on. They have, between them, 43 horse ambulances. Seven of these admit that they will do this work, but the others are evidently frightened to answer for fear of being stopped. I think, before I say anything about that, that I ought to say something about the legal position. I will take this as it stands. A good example is St. George's, Hanover Square, which has done this work for years, and makes a charge for it, and the Local Government Board auditor has never made any objection to the receipts. There have been no outlays. There have simply been receipts. Holborn has also done so for many years, and has fulfilled all the requirements of the neighbourhood. Westminster, which I represent, attempted to do it until we were stopped by the Local Government Board. The fact of the matter is that these Poor Law Unions have ambulances always ready. They require them for their own cases, and it is quite possible for them to spare an ambulance, practically at any time. Even if they are out they are never very far away. It is known where they have gone to, and they are either proceeding between one institution and the Workhouse or the Infirmary or *vice versa*, or going to some particular house which they know: so they always know where they are, and, therefore, even if the ambulance were

out, as it is probably not engaged for a very urgent case, it could always be got in a few minutes with a little system. I have never known a case where it has been urgently wanted in which it could not be got. It can be worked in very well. If it is just going to take a case to the Infirmary, for instance, that case, perhaps, is not an urgent one and a delay of an hour will not hurt, or the case might very well go in a cab. It might be a case of infirmity, or something of the sort. We may take it that London is unique with regard to all other cities in possessing this enormous body of ambulances spread all over the town, and which simply require a little organisation to render them available at any time. I have every reason to believe that the Guardians would willingly undertake the work if they were just shown how to arrange it. I believe that it will be found, when once the thing is set on foot, that it will work almost automatically. It is the question of provision of an extra telephone bell, somebody to take the place of the coachman on Sunday, when he is on leave (probably, a porter might drive), a duplicate set of keys, and small things of that sort, which want adjusting and looking into. Until we have utilised to the full all the available ambulance services, we are not justified in spending money—until we have ascertained what are the *lacunæ* that want filling up in the existing services. At the moment we were stopped we were organising an arrangement with the police for a prompt call for the Westminster ambulance.

618. When was it you were stopped?—I will submit the letter which stopped us. It is the letter upon which the whole thing turns.

619. Will you kindly read the letter?—"23rd April, 1906. I am directed by the Local Government Board to advert to your letter of the 12th ultimo, with reference to the proposal of the Guardians of the Westminster Union to purchase a horse ambulance from the Metropolitan Asylums Board at a cost of £51, and to state that as the Guardians consider that an improved ambulance is required for the conveyance of patients from the Workhouse to the Sick Asylum, the Board consent to the Guardians purchasing the ambulance as proposed, upon the understanding that it will be utilised for all removals to the Sick Asylum, and that it is not to be used for other than Poor Law purposes." We fell into the clutches of the Local Government Board in this way: A board of guardians is not allowed to expend a sum over £50 without obtaining competitive tenders. As we wanted to purchase this second-hand ambulance from the Metropolitan Asylums Board for £51, unfortunately, that extra guinea just brought us within the power of the Local Government Board, and they made what you have read a condition of their consent to the expending of the extra guinea without getting tenders. They put this prohibition in. The matter can only have been very badly considered at the time, because they specify that the ambulance must be used for all removals to the Infirmary. As we have neither horse, driver, nor stable, and simply job a horse and get a man in as we want it, it puts us to the expense of turning out the ambulance now every time we have the most trifling case. A person might perfectly well go by cab in a case of sore heel, for instance. I quote that to show that no very careful attention can have been given to the matter. At the time we were arranging to deal with outside cases we had these cards printed, of which this is a proof.

(The same was handed in and is as follows:)

Telephone No. 5,262 Gerrard.

To the Master of the Workhouse,

49, Poland Street, Oxford Street.

Send ambulance to:

Nature of casualty:

Time:

The cabdriver bringing this will be required to leave his cab in the Workhouse, harness his horse to the ambulance, and drive it himself to the Hospital. He will receive a gratuity of (1s.) one shilling in addition to his ordinary fare.

On showing back of this card the police will afford facilities for passing traffic.

Signed:

No.: Division:

(On the back of the card a large red cross is printed.)

The idea was that the police constables of the division should each carry one of these in his pocketbook, signed, and

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in the event of an accident taking place he would pencil in the details and hand the card to the nearest cabman and tell him to go up and fetch an ambulance, we having neither horse nor driver. That plan was under consideration and would have been in force if the letter had not been received.

620. You are put in Westminster by that letter practically in a different position from that of all other authorities?—We are put in a different position. We are the only persons who are prohibited.

621. By the accident of this £1?—Yes, I would have paid the guinea myself if I had known what would happen. I have here a list of cases dealt with by the ambulance of the Westminster Guardians before the prohibition occurred. In a case of attempted suicide a man cut his throat. It was not in our own district: it was just across the road in Marylebone or Holborn. The family ran across to us and asked if they could have the ambulance as the doctor who had been called in said he must be removed in an ambulance. We told the people to call a cab. The cab was called up, the driver took his horse out, harnessed it to the ambulance, which left at 10.50—in about three minutes. A couple of officers volunteered to go with it. The case was such a bad one that, although they brought the man downstairs in the carrying-chair with which the ambulance is provided, they dare not put him on the bed. One man sat behind him and held him round the waist and the other man held his head. It was a convenient vehicle for doing this. He was taken to the hospital and eventually recovered. Our usual method of doing it, if we were in a hurry, was simply to call in a cabman. We have no stable. We keep the ambulance in an archway which does not even belong to us. That card was never carried into effect. It was all ready when this letter was received. The question has been raised whether any pauper taint might be considered as attaching to the workhouse ambulances. I can only say that I have never heard of any objection, and I find that amongst the persons conveyed is one of the local clergy. In no case was there trouble about payment. In one case where a man was too poor to pay, some charitable institution paid for him, and the Guardians made a small fund themselves in case there was any call, but it was never wanted.

622. You say that there is really no practical difficulty?—Absolutely no practical difficulty whatever, with the exception of a little organisation. There is no question of any expenditure.

623. You always have to do it with job horses I suppose?—It depends. We have statistics as to the number of unions that own their own horses and those that job them. I do not think they are quite reliable. I fancy that Guardians are put in amongst those who job horses, who job them by the year. I might put the general position briefly in this way: If a man can only be guaranteed to be a pauper, a full ambulance service exists for him in London; there is no difficulty whatever; but if he is in a position to pay for it he cannot have one.

624. In the return you mentioned it appears that the horses in many instances are owned by the Guardians and in other instances jobbed?—I think that that probably includes those jobbed by the year, which is practically the same as owning them. The question was not sufficiently clearly put. It means: "Have you to send every time for a horse?" I cannot summarise the evidence further than I have done, I think. If a policeman rings at the bell and takes any person who may be in a position to pay inside the door of a workhouse that person can then have full attention, but as long as he is in the street he cannot.

625. The ambulances are used?—They are used in all Poor Law cases, but they are very little used by the public, partly owing to want of knowledge as to where they can be got. No person dare risk going to an institution where it is uncertain whether he may or may not get an ambulance. If the clerk happened to be in you would get the ambulance in some cases, but at another time if the clerk happened to be out at lunch you would not get it. As long as the legal position is so dubious it is impossible to get guardians to take action in the matter, because they would be liable to be assailed at any moment, as has happened, on the ground of legality.

626. Do you think that it might be met by legislation?—I am not a lawyer and I am not an authority on such matters, but the decision of the Local Government Board must be altered in some way, that is absolutely essential. Whether they can do it by themselves without legislation I do not know.

627. Have the Local Government Board ever laid down

a more general form than that letter that was read just now?—No.

628. That is the only decision of the Local Government Board that you know of—that they cannot be used for these purposes?—Yes, that is the only decision. The case had never come before them before. The ambulance service has grown up very gradually and it is not provided for. One curious thing exists, I may say, and that is that the municipal authorities have power to provide infectious ambulances, but not non-infectious ones. They may establish infectious hospitals and provide infectious ambulances, but they cannot provide non-infectious ones.

629. You see no objection from the Guardians' point of view?—None whatever.

630. It is rather an advantage, because they get a certain amount of money?—Yes; it is absolutely clear profit. On that point I would very strongly advocate that payment should be asked for in all cases, to prevent abuse, because people would otherwise ask for the ambulance to save a cab fare. I should recommend that payment should be made in every case, with power to the guardians to remit, and with power to remit not so much for the sake of remitting the fees as of being able to deal with the case promptly and without previous enquiry. You would get payment in every case, no doubt, but you cannot investigate beforehand. For instance, we shall receive at the Metropolitan Asylums Board £300 or £400 this year, and that will not represent a single penny of expenditure. However good an ambulance service we may have, it is surely desirable to supplement it. I may say that in a good many cases the Poor Law Unions could, if called in in a case of accident, send out a medical man or a nurse, or somebody competent to give first aid, without any trouble. In our case we arranged that during the day time our dispenser should go out if wanted. He is a qualified medical man who volunteered to do the work. He can always leave his office for an hour. Our medical officer is there a certain portion of the time, and he volunteered in case he was wanted to go.

631. Do you wish to say anything more with regard to the Poor Law?—No.

632. Do you wish to say anything more in your capacity as Chairman of the Ambulance Committee of the Metropolitan Asylums Board?—The Board is quite willing to do this work and it possesses all the facilities for doing it. Like the other Poor Law institutions it requires nothing but legal sanction. It has at present to do this work secretly so to speak, and as publicity is the first essential of an ambulance service, an ambulance service which has to be kept secret is of no great value to anybody. I will quote an instance of what want of knowledge of the service entails. One of the clerks in the ambulance department of the Metropolitan Asylums Board was taken seriously ill with peritonitis and became unconscious. The doctor advised his removal in an ambulance. His father ran all over London trying to get an ambulance. He did not know where to get it. He sent to St. Mary's Hospital and they said they had no ambulance there. The end of it was that the patient was taken in a hansom cab and died after an operation. Although his special work was this, he was not in a condition to give any information himself, and his family did not know anything about the facilities. I quote that as a contrary case to that of the lady I quoted, where the policeman knew what to do and got the ambulance in a few moments.

633. What you advocate is having the use of these ambulances recognised and properly made known to the public?—Yes, and I am confident that they, in conjunction with the hand litters which the police are placing all over London now, and the Bischoffsheim litters, would provide a full service for London without difficulty.

634. I suppose that these horse ambulances, whether belonging to the Guardians or the Metropolitan Asylums Board, would be of more use outside the heart of London, where the distances are greater?—Yes, but I might point out that almost every serious case gets under some shelter or is attended to in a chemist's shop. An accident takes place on a staircase of a house or in a building yard and so on. Where you have a few minutes' time to send for a horse ambulance like that it is very desirable, so that the case may have some attention on the road.

635. Have you anything to say with reference to the system of signalling?—With regard to the City Police?

636. I do not mean with regard to the City Police, but generally?—One point that we were at work on was the question of stars or sign boards to indicate places where ambulances could be telephoned for, which Mr. Harrison referred to. I also suggested to the Post Office people that one could very cheaply have

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glass boxes with a telephone in, hooked on to certain subscribers' lines, without laying down a special line, so that you could break the glass, open the door, and put the telephone into operation. It therefore could be cheaply installed in that way, there being merely the cost of the instrument without a special line. The centre of London is so thickly dotted with ambulances now that almost the quickest way is to send a cab. A very good instance of the difference between signalling arrangements and the hand ambulance is to be seen at the Law Courts. On one side of Temple Bar you will find a signal box for the City ambulance. On the other side you will find the Bischoffsheim ambulance all ready, and King's College Hospital at the back. I venture to suggest that the probability is that if an accident takes place there, the first person would go and take the ambulance out to take the patient to King's College Hospital, while the other people were looking for a constable with his key to open the box, and waiting for the City ambulance to get under weigh.

637. What kind of ambulance is that?—An electrical one. The patient would be in hospital a long while before the City ambulance had got off, probably.

638. You mean by the use of the Bischoffsheim litter?—Yes.

639. What is the process of getting the City ambulance?—You get a constable and he puts a key in and rings up. Then I understand they bring a doctor with them.

640. Is there a doctor attached to the City ambulances?—I understand so. Statistics can be manufactured on these points. I see that they got a case the other day of a lady who was rendered unconscious through a 'bus collision. She was detained until the City ambulance was sent for and taken off to hospital, but there was no indication as to the necessity for that or the gravity of the case. There is one point that my attention was called to by a police inspector, and that is, that in the case of serious accidents, even where people are badly injured, it is exceedingly difficult to detain them until the hand ambulance comes. They will themselves insist on being put into a cab, and it is very difficult to do anything with them.

641. Yes, that was pointed out to us the other day by the Commissioner of Police. There is that sort of difficulty not only with the person himself, but the bystanders?—Yes. They thrust him into the nearest cab.

642. If the constable thinks that it is not a case for a cab he has to be rather firm sometimes?—Yes. Then of course a good deal of capital has been made about the use of carts and railway wagons, and so on, but as a matter of fact you cannot have anything much better than a cart to convey a person in a recumbent position. A spring cart does all that is wanted. As regards the number of cases, of course, as the service does not exist practically it is difficult to guess what the amount of work would be, even if the Poor Law authorities had power, but I should think myself that, taking an average all round, it would not exceed 20 cases per union per annum. That would mean 600 cases for the Poor Law.

643. You said that you were an engineer?—Yes.

644. With regard to the construction of ambulances, what have you to say about the ordinary police hand ambulance?—I consider that it is not an up-to-date model. For instance, it has on each side a pair of big iron supports to keep the person from rolling off. One of them ought to be made detachable, so that the person has not to be dropped in but can be slid in much more comfortably. There are details of that sort. At our work-house we have altered one of these to make it detachable. Like everything else, the police service is susceptible of improvement.

645. Has one type prevailed for long?—Yes.

646. Is there any other point that you wish to go into upon this?—No, I think that that is all. It seems to be a serviceable thing. It is rather long for inside work; I do not think, in fact, that it could be used inside a building, owing to the length of the construction.

647. No. I suppose that it is intended for street work?—Yes. I may say, if it is of any interest, that I had a discussion with Dr. Martin in Paris. He is the head of the Paris ambulance service. He entirely agrees with my view that a service for accidents only is too costly to be worth maintaining.

648. You mean a horse or motor ambulance service?—Yes, for accidents alone. They have in Paris a very large number of cases per annum. I see that they transported last year 30,886 non-infectious cases, in addition to 14,459

infectious cases, but a large proportion of these would be such cases as are dealt with by our Poor Law—the transferring of people to infirmaries. They work exceedingly economically, and they do not send any attendant with their ambulances. They rely on the police or the porters at the different houses to assist in carrying the people. The service is conducted by the town. There is no system of calls, but they have priority over the telephone after the fire brigade. That is a point which will require consideration. Personally I am opposed to it. I do not think it is necessary. I think that the London telephone service is sufficiently prompt without complicating it by asking for priority. Apparently they are liable to be summoned by the people themselves, by the municipal authorities, and by the police.

649. Are these hand ambulances or motor ambulances?—Horse ambulances. I do not think they have any hand ambulances, except probably at the police stations; I do not know how that is. A charge is made, but all persons who pay less rent than £20 a year are considered not to be in a position to be able to pay for ambulances. The ambulances are liable to be summoned by the municipal authorities and by the police, and in that case a bill of the amount is sent to the authorities summoning them, leaving them to decide whether they will make a charge or not. A receipt is sent. Dr. Martin said that he reckoned that if they had a purely accident service alone with the system of calls it would cost £6 a case. He said, as a matter of fact, people are taken to the nearest *pharmacie*, and by then there has been time to telephone for first aid, and the ordinary horse ambulance comes.

650. Is there any system of the police administering first aid?—They are beginning to do it, but I fancy that it is very rudimentary. One hears that there is a general demand for an ambulance service and a central authority, and so on, but I venture to submit that in London we have so many services, that as long as they are co-ordinated we do not want any particular definite authority. An ambulance service is not like a fire brigade, where you have to concentrate all your vehicles at one point, and so on. As long as the different people will do their own work there is no particular necessity for anything more than publicity and an inspecting body. It has been said that in most of the provinces the municipal authorities are the proper people to do it. That I quite agree with, because the municipal authorities control the police; but as regards London I am strongly of opinion that the only body that can deal with this matter is the police. Its functions should consist of inspecting and placing on its official list all really serviceable and readily available ambulance services. If they were to give a little encouragement to and point out the defects of the different services, such as the Poor Law and so on, that is all that should be wanted. They should also be charged with putting up indication tablets, such as: "300 yards to the nearest Horse Ambulance;" or "200 yards to the nearest Hand Ambulance;" or "Ambulance telephone here;" or whatever the indication would be. They should also be responsible for removing the names of any unsatisfactory service. I am sure that it would really want nothing more than that. There would be a certain amount of work in getting the thing into order in the first place, somebody going round and talking to the different Boards of Guardians and explaining what the defects were. These things are quickly circulated in Poor Law circles, and the staffs of the different workhouses would naturally pick up information, one from the other. They are always meeting and having conferences, and each would soon endeavour to improve on the others' methods. I take it that in a very short time, if this legal impediment were removed, with the assistance and advice of the police, the whole thing would spring into existence.

651. Do you think that there is required a large increase in the number of ambulances, assuming that they were made available?—I do not think it would require any increase. Some Poor Law authorities are terrified when you talk about an ambulance service. They think it will be a sort of compulsory service, which they will be called on day or night to send out at any moment. For instance, one Board which has eight ambulances cannot possibly, it says, do the work. Holborn, which has one, has done it for years without the slightest trouble. The amount of work is very small and if sub-divided it becomes infinitesimal.

652. Do you wish to add anything?—I think that I have, generally, stated my views. As you are aware, I believe, I organised a conference of the Poor Law authorities and I am Chairman of the Executive Committee appointed by them to pursue the question further, but in view of the appointment of this Committee it was thought wise to defer any further action until we had attacked the main question of the legal position.

*Mr. H. Thomson Lyon***By the Earl of Stamford.**

653. You did not deal with the head No. 4 in your *précis* in any way—"I propose to call attention to the inadequate arrangements for the reception of accident cases at some of the general hospitals"—As a layman, I attack this with very great diffidence.

By the Chairman.

654. With regard to No. 4, I do not think we can go into it. All the hospitals will want to appear before us?—All I can say is, it is a point that requires great attention. The case does not end when it gets to the hospital. There ought to be some prompter method of dealing with cases when you get them to the door of the hospital and, I think, the question ought to be considered in some way.

655. When we have once got the man to the hospital we must leave him there; the question is not referred to us, in any way?—I follow.

By Sir William Collins.

656. Without previous communication with the hospital it is not known whether a case can be taken in when it arrives?—No.

By the Chairman.

657. If what you say bears on that we ought to admit it?—All I know is that there was an accident case which occurred in the street and was taken over to the hospital and there it remained without treatment.

658. Your point is with regard to what took place after the patient had gone there?—Yes. It may be germane to the matter, but not within the reference. I am quite content to finish my part of it when we get to the door of the hospital.

By the Earl of Stamford.

659. It is your very interesting contention that you consider the ambulance provision of the Metropolitan adequate?—Yes, adequate.

660. And that all that is required is organisation?—Yes.

661. And possibly the removal of some legal disabilities?—Yes.

662. I should be glad to hear a little more about the existing provision made by the Metropolitan Asylums Board. I do not think it is clear, from your evidence, how many non-infectious ambulances there are at present at the disposal of the Asylums Board?—We have, practically, any number. We have a large number of reserve ambulances which could be drawn out of store if we wanted them, but as regards ambulance work the point is not the number of vehicles but the number of stations.

663. At present you have six stations?—We have six. If the work went up we could simply draw more vehicles out of store. We have always a large reserve of vehicles.

664. How many motor ambulances are there at present?—We have three, one only of which is used for non-infectious work.

665. What has been the success hitherto with regard to the motor ambulance. Has there been any case of breakdown?—We have never had a breakdown with a patient yet.

666. With regard to the porter who accompanies the ambulance, have any of the porters had instruction in first aid?—No.

667. They would be simply employed for the purpose of carriers? There was an interesting display of ambulances in Gray's Inn Square some months ago, when I was able to realise the amount of provision there is already.—Yes. I felt it was necessary to give London that object lesson.

668. I saw there the new ambulance which has been provided for the City?—Yes.

669. We were able to see the high quality of some of the ambulances, both at the disposal of the Metropolitan Asylums Board and of the Poor Law unions as well?—Yes.

By Sir William Collins.

670. Do I understand that you are representing the views of the Metropolitan Asylums Board?—No. I am not the official delegate. The clerk of the Board has been asked to attend and will represent their views. I am representing the Poor Law authorities rather.

671. One is familiar with the excellent service of the Asylums Board in connection with infectious cases. How many years is it since they began to take up other work than that?—About four years.

672. Was a resolution passed on the subject in November, 1903, which gave the authority for this extra use of their vehicles?—I believe so, but I have not come very fully prepared to answer as to the historical side of it, as the Clerk will deal with that.

673. The reason why I direct your attention to that resolution is because I see that it states that such extension of the ambulance service should not include the removal of cases of street accidents?—That was merely put in to avoid the opposition of the London County Council.

674. Is it under that resolution that you are still acting?—Yes.

675. How far is there authority for the use of any ambulances of the Asylums Board for street accidents?—There is not any.

676. Does that same disability apply to the Poor Law Guardians' ambulances?—Yes.

677. You are under precisely the same disability, whether as Asylums Board or Poor Law Guardians, in respect of the use of any of their ambulances for street accidents?—Yes, except that with regard to the Poor Law, if it could be proved that the man was a pauper, the relieving officer could send the ambulance for him.

678. But for street accidents, as such, you have no power to use the ambulances of the Asylums Board or of the Poor Law Guardians?—No, none.

679. Did I understand you to suggest that the Poor Law authorities should be the ambulance authorities for London?—I rather suggested that there should not be an ambulance authority, but that we should utilise the existing ambulances, and that the Metropolitan Police should act as the organising and statistical body.

680. Would not proper organisation involve one authority?—I do not think so. You see, there is no necessity for concerted action as long as each body (it does not matter whether it is a Poor Law authority or a railway company) keeps its appliances in efficient order.

681. Is there any instance outside London where the Poor Law authority is the ambulance authority?—I have never heard of it. I have, in one or two isolated cases, seen a notice, from time to time, in the *Local Government Board Journal* that such and such union has decided to place its ambulance at the disposal of the public.

682. In provincial towns, that have horse ambulances, they are municipal services, are they not, usually worked in connection with the fire brigade?—I do not know of any instance where that is done.

683. Have you studied the question in the provinces?—Not in the provinces at all.

684. I do not quite understand the figures which you gave to us of these cases in 1906. You said 424 cases, I think?—Yes.

685. Were they all cases in which the ambulances of the Metropolitan Asylums Board were employed for other than infectious cases?—Private removals, as we call them; surgical, medical, and accident cases.

686. Most of those being removal of patients to or from their own homes, or from places where they had been carried to?—Most of them were removed to or from their own homes.

687. How many of the 424 would be cases of street accidents?—Very few indeed.

688. In 1907, would the same apply to the 375 cases that you have had so far?—Very few indeed.

689. When you spoke of running up the figures in recent years, you referred to what you call "private cases" and not to street accidents?—Not street accidents.

690. When was the arrangement entered into by the police with the Metropolitan Asylums Board for the utilisation of your ambulances for police cases?—There was no arrangement.

691. Have they been utilised by the police?—The police, last year, about August, applied to us for information as to how our ambulances could be obtained. They began to investigate the subject, and we informed them as to our tariff and our telephone numbers, and on that they circulated an instruction to the stations giving those particulars.

692. Had you examined the three horse ambulances, which were then under the care of the police?—No, but

Mr. H. Thomson Lyon.

we took the statement of the police that they were quite unserviceable.

693. Were they on show at your exhibition?—No. I do not think they could be removed. I understand that these ambulances were given to the police some years ago, but that they possess no funds for keeping them in repair.

694. With regard to the case that you told us of, where the Local Government Board interfered with the proposed action of the Westminster Board of Guardians, that was not on the ground, was it, that you were making a payment of more than £50 without inviting tenders, but, it having come to their knowledge by that means, they objected to the expenditure because it was for other than Poor Law purposes?—I do not know what their motives may have been, but I know that is what the result was.

695. But have you any power, as a Board of Guardians, to spend money on ambulances for other than Poor Law purposes?—We did not propose to spend any money. We had to have an ambulance of our own to convey our own sick to our own Infirmary, and we proposed, when it was not wanted, to place it at the disposal of anybody who would provide a horse and driver for it.

696. Did not you propose to make expenditure on behalf of some sort of vehicle which you intended to put to purposes other than Poor Law?—We intended to make it available and to use it for our own work.

697. You did intend to use it for other than Poor Law work?—Certainly.

698. You quoted two very valuable instances in which the Asylums Board horse ambulance was used for accident cases, indicating the prompt way in which the ambulance could be utilised for the removal, in such cases, to hospital?—Yes.

699. One, I think, was in Bessom Street, New Cross?—Yes.

700. Where was the other?—The other was at the Fulham Public Library.

By the Chairman.

701. That is the case in which the clergyman on his bicycle assisted?—That is the case of the clergyman on his bicycle.

By Sir William Collins.

702. Are those parts of London in which, you think, a horse ambulance would be useful?—Yes. They are on the outlying ring.

703. You spoke of the motor ambulance used for infectious cases as having made an enormous difference as against horse ambulances?—Yes.

704. Is that on account of the saving of time?—It is on account of the saving of time. In operation cases it has sometimes made the difference between life and death. There is considerable economy owing to the nurses being able to do so much work. They are a so much shorter time out.

705. Those ambulances would be used, I suppose, all over London, would they not?—Yes.

706. In so far as the motor ambulance secures greater promptitude for the removal of such cases, would it not be useful in securing greater promptitude in the removal of cases of severe injuries?—Undoubtedly.

707. Would that not be useful all over London?—I think so. I am strongly of opinion that it would be.

708. Do you ever use your ambulances used in the ordinary way for infectious cases for non-infectious purposes?—No.

709. You practice a method of disinfection, do you not?—They are always disinfected after every case, both the infectious ones and the non-infectious ones.

710. With your experience would you say that it would be safe or reasonably safe to employ an ambulance which was used habitually for infectious cases after the full disinfection for the purpose of street casualties?—The Committee and the Board have never laid down any particular rule on the subject. They have always avoided doing so, but it has been the practice of the superintendents never to use the infectious vehicles for non-infectious work.

711. Are they at quite distinct stations?—No, they are at the same stations, but we do not use the same vehicles, and the men wear different uniforms.

712. Are the staffs quite distinct?—No.

713. They are not quite distinct?—No, but they always change their clothes.

714. It is that service that you suggest should be used for street accidents?—Yes, in conjunction with the Poor Law authorities—the Board of Guardians.

715. As regards the Boards of Guardians, there are 31 in London, are there not?—Yes.

716. Do I understand that seven only have, to use your words, acknowledged that their ambulances are available?—Yes.

717. What is the view of the majority with regard to putting the ambulances to such purposes?—They were not asked their views. They were simply asked whether they did it or not. As the conference was called for the purpose of getting over this letter of the Local Government Board, it was perfectly useless to attempt to make any progress as long as that remained in existence.

718. The purpose of the conference was to get over the difficulty arising from the letter of the Local Government Board?—Yes.

By the Chairman.

719. That was taken as having general application?—Yes, general application. It was felt that any malicious person might draw down the attention of the Local Government Board as had been done in our case.

By Sir William Collins.

720. Has any further action been taken since that conference?—No, because in view of this Committee it was decided to defer it. It was proposed that a deputation should wait on the Local Government Board, but it was felt that until this Committee had pronounced it would be premature to take any action.

721. I think you told us that you designed the motor ambulances for the Asylums Board?—Yes.

722. You made some criticisms on the hand ambulances of the police?—Yes.

723. What impressions did you form of the ambulances of the Guardians which were on show at Gray's Inn?—Taking them all round they were some of them rather antiquated, but they were all serviceable ones. They might have been improved in design in many ways, but they were all serviceable vehicles and fit for their purpose.

724. In Paris the service is municipal, is it not?—Yes.

725. The police are not municipal, are they?—No. The Paris municipality is a very complicated thing. There are two co-ordinate bodies—the Prefect de la Seine, and the Municipal Council. It is rather an intricate question.

726. I know that very well. I need not trouble you with it. But the police are not under the same authority as the ambulances are?—I should hardly like to say that they were not. I should say that the police and the ambulance are under the same authority; not that the ambulance is under the police.

727. Are they under the Conseil Municipal?—No, but they are under the Prefect de la Seine, and the Conseil Municipal is equally under him.

728. Are the ambulances not the property of the town of Paris?—Yes, I believe so.

729. It has been the custom, has it not, in Paris for years to take an injured person into the nearest *pharmacie*?—Yes.

730. Are not those linked up by telephone with the hospitals or with the ambulance stations?—I am certain that they are not linked up by direct telephones with the ambulance stations, because the ambulance stations are not even linked up with each other, or with the head office, but have to communicate through the central exchanges.

731. Would it be advantageous, do you think, if the *pharmacies* were linked up by telephone with the hospitals and the ambulance stations?—I think it would be very desirable.

732. Equally here do you think it would be desirable that the telephone should be more largely utilised for the purpose of summoning the ambulance and communicating with the hospitals?—I think so.

733. I do not think I am going beyond the limits of our reference if I ask whether you have heard of cases in which a patient has been removed to one hospital and has failed to obtain admission there because there was not a vacancy, and has had to be removed again to another hospital?—Yes. I laid a case before you just now.

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734. I am bringing that out in another way. Would it be desirable to have the ambulance system, whatever it may be, in telephonic communication with the hospitals, for the purpose of ascertaining prior to removal that that patient would be received into the hospital to which he was taken, to prevent needless suffering by way of taking the patient to one hospital where there was no bed for his admission?—Yes. I may say that there are instructions to our drivers that before taking any case into their vehicle they are to ascertain if possible whether the patient's friends have made preparations for his reception, and, if they have not, to endeavour to dissuade them from sending the case on until they have done so.

By the Chairman.

735. Are you speaking of street accidents, or of all cases?—Of all cases. Except in that one case I have never actually known a case where they refused treatment to a seriously injured person in a hospital. The effect of our legal position on the Metropolitan Asylums Board prevents our notifying properly the hospital authorities and so on as to what we can do.

736. I do not quite understand?—We, for instance, cannot, if there is a street accident, say, "We will telephone up to you and say where it is being brought to," or anything of the sort. Our position is so irregular in the matter, that we can take, practically, no steps. As far as my evidence is concerned, it may briefly be summed up in this way—that as regards pauper cases there is ample

provision, and as regards others the moment that letter of the Local Government Board is overcome an ample service for London will spring into existence within 24 hours.

737. A horse ambulance service?—A horse ambulance service.

738. That you regard as supplementing but not superseding the hand ambulance?—Certainly not. The hand ambulance is our first line of attack.

739. And the horse ambulance you consider specially applicable to the outlying districts?—Yes, to the outlying districts. With regard to the interior, where a case has been taken into a place for preliminary treatment, as the great majority of cases are, the Poor Law authorities which are dotted well over the centre of London, should be made available because they can turn up quicker than even we can, and the more the work is sub-divided the more economical it becomes.

740. When you say "turn up quicker," are you thinking of the ambulance?—Yes. Supposing an accident took place in this building and you were going to take it to Westminster Hospital, if you had to send for a doctor, and so on, to splint the man up, there would be quite time enough to send to Stockwell for a horse ambulance rather than to send to Cannon Row Police Station for a hand litter. Or you could send to Poland Street, which would be quicker still. That is where our Westminster Union ambulance is. The ambulance could be down here in ten minutes.

FOURTH DAY.

Friday, 14th June, 1907.

PRESENT:

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. the EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. ARTHUR W. JAMES, M.D., D.P.H., called in and examined.

By the Chairman.

741. Will you, if you please, state in what capacity you are here to give evidence?—I am a Doctor of Medicine in private practice, and in ambulance work I am Honorary Secretary of the Metropolitan Street Ambulance Association, an Association consisting of about 1,200 medical men, 1,100 of whom are in London.

742. The Association was formed, I think, in 1904?—It was formed in January, 1904.

743. You have taken a great deal of interest in the matter of a street ambulance service for some years?—Yes, for many years. I had a good deal to do with sending light ambulances out to the war in South Africa in place of the heavy vehicles.

744. Have you had experience elsewhere than in London?—I have travelled all over the world. I spent five years in travelling and came across most of the ambulance systems in the various big towns, especially in the United States, Canada and Australia.

745. Have you given special attention to the conditions of London in this respect?—Yes; I had been occupied with it for several years before I took up the matter.

746. Will you just follow your own course, please, as to what you want to tell us about. What have you to say about the London system?—From the medical, surgical and administrative points of view I consider the present provision in London for dealing with cases of illness and accident occurring in the streets wholly inadequate.

747. You will tell us presently in what respects you consider it most inadequate?—Yes. After reviewing the many fruitless attempts made in the past to induce London to adopt a proper service, in January, 1904 I endeavoured to influence public opinion and the responsible authorities by forming an influential association of medical men called the Metropolitan Street Ambulance Association. It occurred to me that in the past the medical side had been far too much overlooked, and that almost the entire organisation of ambulance work was in the hands of lay representatives, who sometimes overlooked many of the important medical points. The object of the Association was to collect evidence of what was actually taking place from those medical men who received these emergency cases when they arrived in the hospitals, and from those who were called to attend them in the streets. It is unfortunate that the two do not act together always, so that the man who attends the case in the streets loses sight of it, and if that case is improperly taken to the hospital one finds the drawbacks of the arrangement.

748. What steps did you take as regards the hospitals? Did you just take the evidence of the surgeon in attendance, and so on, and get anything that you could in the shape of figures?—As a rule we kept away from figures, because they are very difficult to get, and we found the figures that the London County Council had got previously were backed up in every description. We found also, on inquiry at the different hospitals, that there are no proper statistics kept at any of them, and that is a thing that is very much wanted. London is so large that I am quite certain that if a Board had to deal with this matter,

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and took absolutely accurate evidence for a whole year, we should find that not only are there far more accidents than we imagine at present, but that they are very much more severe than we imagine.

749. That was done to some extent, was it not, by the London County Council?—Yes; but they did not extend it over a long period. The members of our Association include the Presidents and Vice-Presidents and most of the Councils of both the Royal College of Physicians of London and the Royal College of Surgeons of England, and almost the entire staffs of every hospital in London, as well as representative men from every district. I have never known the medical profession so unanimous over any subject as they have been over this subject. It was most noticeable. I was told before I started the Association that I should not get more than twenty men to join, but it has proved to be otherwise, and the endeavours of the Association were forwarded and encouraged by the whole medical and lay Press of London and of many parts of the world. I got an extraordinary number of letters from Australia and many parts of the United States and of Canada. Acting with the Metropolitan Street Ambulance Association on this occasion in this matter is the Metropolitan Branch of the British Medical Association, the membership of which is 2,640. For nearly three and a-half years this Street Ambulance Association has been collecting evidence from hospital authorities, from coroners, from all sections of the Press and public, and from the Police reports, to prove the utter inadequacy of the present arrangements.

750. Is that evidence in any available form?—I have got a great deal in the form of press cuttings and so on that I am having collected, but one cannot put it other than in this sort of evidence. Ample evidence has been collected to show how widespread the desire for reform is amongst every section of the community. I do not think a single big paper in London has failed to refer to the inadequate arrangements at present. I found that every paper mentioned it, and nearly all gave leading articles and brought up the subject in every form.

751. Is what you are saying now directed mainly to accidents in the streets?—Yes, street accidents and medical casualties, cases of illness occurring in streets and public places.

752. Are you speaking only of street accidents and medical casualties?—Yes; I want to keep to accidents and medical casualties occurring in the streets and public places almost entirely, because it is an entirely different responsibility. Women bitterly complain of the lack of ambulance provision for caring for their needs—that we get from every district in London. We had at the time the Association was formed about 120 local secretaries, all doctors, collecting evidence and reporting as to their districts; and they all reported in the same way.

753. That statement, then, is based upon the reports of doctors?—Yes; of doctors in every part of London. They are absolutely unanimous about it. The case for reform is so overwhelming, so urgent, and so well recognised by all who are cognisant of the facts, from the medical point of view I mean, that nothing but the dead weight of London inertia, due to its enormous size, and various reasons of that sort, I think, can have kept an ambulance service from having been established.

754. You refer, I see, in your proof, to jealousy amongst responsible authorities. What are you pointing to there?—I am sorry to say that we find very great evidence of that.

755. The evidence we have got so far is the other way. I should like to know what you base that on?—When I go to the head official of the Metropolitan Police nothing could be nicer, he is ready to co-operate in every possible way; but there are certain officials lower down who are extremely jealous of anything being taken away from the Metropolitan Police.

756. You do not mean in the actual working? The system at present may be good or bad, but in the actual working of it apparently there is an entire absence of friction?—I think so.

757. That is to say, everybody who has an ambulance is only too ready to have it utilised?—Yes, quite.

758. And the only real difficulty so far suggested to us in that respect seems to have been rather a defect in the law?—Yes, and in the organization. I think that throughout the whole country the importance of ambulance work has been lost sight of.

759. I quite see your point. I think you have answered the question?—That is the greatest difficulty one has.

760. You mean that it is rather a jealousy as to who is to have the management of the affair?—Yes.

761. It is an illustration of that?—Yes, and also there is a shelving of responsibility. Of course, it is an expensive thing to establish an adequate ambulance service in London, and each authority is so busy, all the authorities are so full up with work at the present moment, that they naturally do not want more work, especially when it means going to Parliament in some cases to ask for funds to do it. I wish to state—based upon my experience in all parts of the world—that, to the inhabitants and administrators of the many large towns throughout the world where well-proved direct ambulance services have been in working order for years, it seems incredible that London, with its annual list of more than 20,000 severe casualties, should be without a properly organised ambulance service.

762. Where do you get that figure of 20,000?—I get it from the hospitals and from the Police returns. First of all, we have nearly 11,000 known to the Metropolitan Police.

763. Taking the figures of last year, the Metropolitan Police report 8,002 street accidents, and 2,853 cases of illness?—Yes, I always put those together from our point of view. Then we have to add on about 2,000 usually occurring in the City and recorded by the City of London Police; their average is about 2,000.

764. I suppose you would have to take out a certain number of those accidents, not a large number, which occur in the Metropolitan Police District, but not in any sense within London?—Yes, right outside, but they are very few.

765. There are some big boroughs, you know?—Yes, but after that I have to add on a great number of cases not known to the police.

766. That is rather what I wanted to get at. Is there any way of finding out how many accidents there are which do not come into those reports at all?—I have got the statistics chiefly through hospitals, and the reports are usually that a little more than half their cases are brought in by the police; and then we have to add on a certain number of cases, of course, that occur in the docks of London. In every other town these are dealt with by the street ambulance service.

767. The docks have their own police?—Yes; and if we got a true record, I am certain it would be much nearer 30,000 than 20,000.

768. No doubt the docks have a very large number which we do not get in these returns?—Yes, a very large number; but in nearly every inquiry we get very much the same answers from the hospitals: that, roughly, three out of five, or half of the cases which occur are police cases, and the other two-fifths are not.

769. We shall, no doubt, have a good deal of evidence upon that point before we have done?—Thirty-seven years ago New York had to combat the same adverse opinions with regard to the organisation of an ambulance service as London has to-day; but even at that time, when accidents were far less numerous than they are to-day, so effectually was the opposition overcome that the pattern service of the world was established there in 1870.

770. What do you mean by that? What is the opposition to an ambulance service?—It is a very difficult thing to impress the lay mind with the enormous importance of the proper handling of an accident; that is really it. The New York service was started by medical men, who met with the same difficulty in making people see that it was really important to handle an accident in a special way. But after the New York service was started in 1870, it immediately proved so strikingly successful that almost every town in the United States and in Canada quickly followed the example, and gradually since then most of the important towns throughout the civilized world have done likewise. Wherever rapid-transit ambulance services have been properly organised, hand ambulances have been superseded and left in the background. That is a very important point with regard to London; because it is often said that in London the hand ambulance being close at hand would be of greater service than a horse ambulance. But I find that it is very much like the doctor and his carriage. If he has a carriage he uses it for his cases near at hand as well as far away;

and if you attempt not to do that you find that you waste a great amount of time.

771. Do you contemplate using a horse ambulance in every case?—I should suggest as the best plan, if a proper service is established in London, that you should not restrict its use, except in certain cases, because you would find as in experience it has been found in almost every other place where a service has been established, that the horse ambulance, if it is near at hand, very quickly brings the necessary skilled attendance.

772. Who is to decide whether the horse ambulance is to be used or not?—If a service is established in London, I should hope to see it so well organised that the police would naturally ring up the station. They would be told in no case to run great risks with accidents and casualties.

773. Supposing that a man meets with an accident in the street and has his head cut, and he says, "I will go to the hospital in a cab," is the policeman to prevent him?—No; you cannot do that, of course; but I am afraid that difficulty has been rather exaggerated. The difficulty at present in getting people to go in these wheeled litters is that they are such very objectionable looking things; and it is well known that they are used for drunken people, and people in all sorts of conditions. They are not altogether looked on as aseptic either, and women have the greatest objection to going into them. There is no proper system of keeping them, what we call, surgically clean.

774. That raises a rather different question. We are at present upon the question of rapidity of transit?—If you take rapidity of transit, I would guarantee that in every place it would be possible with a properly organised service to pick up the cases and take them to hospital much more quickly than you can with a hand ambulance service.

775. When you apply that to the conditions of London, is it so certain?—I will give you an instance in point. The police statistics deal very much with where the accident occurs, where the nearest hospital is on the one side, we will say, and where the nearest hand ambulance is to be got. Some time ago I was called to an accident in the street close to my house, within three minutes of St. Mary's Hospital, where there is a Bischoffsheim ambulance, so that we had got three minutes from both—the most favourable case you could get. I would not let that case be sent in any way except in an ambulance, because the man was unconscious, and he had got concussion—he had fallen off the top of a 'bus. There was forty minutes' interval between the accident and his arrival at the hospital. What happened was that, first of all, I had to find a policeman, and when I had found him, that policeman would not leave the case.

776. Where did the accident happen?—At a place called Westbourne Crescent, close to Gloucester Terrace. The policeman would not leave the accident until he got another policeman to go and fetch a litter; he took charge. And that is the usual custom—that they take charge of the cases when called.

777. Did he blow his whistle for another policeman?—No, he saw one coming along and waited until he strolled down. That policeman was sent off to get the ambulance. He found that it was not there, it had gone off to somebody else, and he was done. Then he had to walk off for another ambulance, and he eventually arrived at the hospital with the patient.

778. That, I suppose, might happen with a horse ambulance, too?—No, because with a properly coordinated ambulance service it is exactly the same as with the fire brigade: if you telephone for an ambulance and it is out of the station, the nearest station in the other direction sends one. There is no difficulty in New York or any of those towns from that point of view. In London, at present, the haphazard arrangements for dealing with street casualties are chiefly in the hands of the Metropolitan Police, who appear to deal with the matter more from the point of view of clearing away any obstruction to traffic than from the medical standpoint. Although this body, in the course of its many duties, has to handle nearly 11,000 severe casualties in a year, it is not thought necessary to ensure that each member is made competent even to carry out that irreducible minimum of elementary knowledge known as First Aid. The members of the force are "encouraged" to become acquainted with what should be thoroughly well known to every constable on duty. Without having sufficient know-

ledge to guide them, they are given a very wide discretion to call in medical aid, to hire a cab for conveying the patient to hospital, to take sole charge of an individual suffering from a dangerous and undiagnosed injury, and to take such a patient to hospital at a walking pace in a wheeled litter which may have just been used for a drunken or septic patient, or else in a very unsuitable conveyance, at risk of life or limb. A great deal has been made of the training in first aid, but in no case can First Aid be considered sufficient to deal with these cases. In practice it is found that there is often great loss of valuable time in hunting about for medical men, so that the majority of cases are not seen by anyone with the requisite amount of medical knowledge until they arrive at the hospital. The time lost also in sending to fetch a hand ambulance, which may or may not be in its place and available when wanted, and the slow progress, have the effect of causing very unsuitable horsed vehicles to be used in the majority of cases. Careful observation taken at the large hospitals showed that nearly 70 per cent. of street casualties brought by some conveyance arrived in cabs and other unsuitable conveyances. Since we made a great fuss in the matter in 1904 the police have put a good many more hand ambulances on the streets, but even now we find from the hospitals that cabs are still used to a very great extent. In the case of women overcome by accident or sudden illness in the streets it is impossible under present arrangements with or without medical aid, properly to diagnose the nature of their complaints under the public gaze. I think it is in this matter that one of the greatest points should be made with regard to horse ambulances or motor ambulances. Women are, therefore, at great risk, and sometimes with even fatal consequences, placed in the first covered conveyance procurable and hurried off to the nearest hospital. Many of these women arrive in hospital in a deplorable and exhausted condition, when it is found on examination that the most elementary First Aid carried out on the spot would have been all that was necessary for their treatment. The covered horse or motor ambulance, surgically clean and replete with all the necessary appliances, is found to be of the greatest value in these cases and is essential, if only from motives of decency. That is one of the greatest difficulties to medical men when they are called to attend accidents or medical casualties in the street. People go to all the houses where they are likely to find a medical man, and the medical man in a great hurry has to run off to an accident in the street. Very often he is stopped in his brougham. One arrives at an accident with absolutely no appliances; he has nothing with which even to render First Aid, and the police are in the same condition. They are given no appliances with which to render First Aid, even if they have got the knowledge, and in the case of women it is almost impossible to do anything for them. The case I am thinking of at the present moment is one where a woman was getting out of a tram-car, and got what is a very common accident, she burst a varicose vein high up in the thigh. Nobody dare expose her with the public all round, and that poor woman was taken off to the hospital and nearly bled to death.

779. In a cab?—They took her off in one of the ambulances, and in that case she was put out of sight in the ambulance; but that was not enough. It was one of the easiest cases possible to treat, merely putting a finger on the spot would have kept her from losing all that blood. In many cases of bleeding they lose their life before you can get half-way to the hospital; whereas with the horse or motor ambulance you have got practically a little hospital on the spot. You can do anything with them. You shut the door of your ambulance and you have light enough; you can get at them quite quickly.

780. There is an obvious advantage in a case of that sort; but still that belongs rather to the furnishing of the ambulance than to the character of the ambulance. I think the evidence has been that there are certain appliances in these ambulances for ordinary purposes?—In the Bischoffsheim boxes you can get some appliances, but you cannot get at the patient. Take, for instance, my case of the woman—what could one do?

781. She could not be treated in that particular ambulance?—No. Then, again, in a case like that, the leg should have been raised up. You can do that in a horse ambulance.

782. Would that be part of the instruction that the constable would have, if he had a proper system of instruction in First Aid?—No, you really could never

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give him that instruction; that would mean exposing the women. You never can hope to give that. Besides which, it is very difficult in the case of a man; in London practically it is almost impossible from a medical standpoint. That is why they are hurried into cabs and so on; and nothing could be worse than to put a case of that sort into a cab; because you have the leg down in the worst possible position.

783. Of course the instructions are that in cases of injuries to the lower limbs they are to wait for the ambulance?—But they do not know what the injury is. Women are clothed in such a way that one cannot find out under the public gaze what the person is suffering from.

784. But still, would it not be obviously in the lower limbs?—No; it might be a miscarriage; it might be a thousand things. We are absolutely in the dark. The medical man, I mean, is in the same position. With women especially, we never know what it is. That was a case where practically you would have said she had had no accident at all. These varicose veins in women are very enormous, and if they do burst you would be surprised at the loss of blood in almost a few seconds. The hand ambulances at the disposal of the police have to be fetched sometimes from a mile or more from the accident.

785. That would be the case in the remoter districts, in the outside parts of London?—But it is constantly occurring in the outside.

786. I mean that there may be a stronger case, perhaps, for having horse ambulances there; the further the distance is the stronger the case is for a horse or motor ambulance?—That is so, from the point of view of quickly coming to the spot; the greater the distance, of course the greater the importance. But that does not get over the fact of the necessity for taking a skilled attendant.

787. That is an essential part of your system, to take a skilled attendant?—I think that is one of the most essential things. If you are going to aim at a service which shall be really what it ought to be at the present date, that I look upon as one of the most essential things; and not only a skilled attendant, but the appliances, and the fact that you must be able to get at your patient. You cannot do that at present, you cannot risk, in some accidents, even taking them 100 yards in an undiagnosed condition.

788. Then, in fact, you, I suppose, would assent to what a witness stated here the other day, that really what you want to do is, in a sense, to bring the hospital treatment to the patient?—Yes, to bring the hospital treatment to the patient. I think that is very essential, because there is nothing more dangerous, in many of these cases, than movement. I mean that in many of these cases, if you had got them in hospital, you would not move them from one bed to another. Many of them lose their lives by the way they are handled at present. I have records of such a thing as a case of fracture of the base of the skull being put into a cab, because there was no other way of taking it to the hospital. Of course the patient arrived there dead. He was rattled to death; his chance of recovery was taken clean away. I have another case where a man with apoplexy was taken up in the street and put in a cab. He also arrived dead. You cannot conceive a more certain way of killing a man than to subject him to that treatment. The hand ambulances at the disposal of the police have to be fetched sometimes from a mile or more from the accident. In practice, this works out often as follows: An accident occurs, and is usually within a few minutes discovered by a constable, who renders First Aid as far as he is able without any appliances whatever.

789. He takes whatever he can get; he takes a handkerchief, or anything?—As a matter-of-fact he practically takes nothing; he pulls his patient out from the middle of the road and leaves him there. He should take anything he could get if he knew what he wanted; but he is not in a position, in many cases, to diagnose the injury.

790. That is rather what I wanted to come to presently: whether, in your view, the evil is want of knowledge, or want of police, or want of proper appliances?—We can never hope to stand the expense of educating a very large body of men in the requisite knowledge. We can hope to deal with the limited few that would be necessary for a rapid service.

791. What you have to do is to deal with the average constable?—Then we can only hope to make every

average constable trained in First Aid; we can never hope to go beyond that, and I should look upon that as practically one per cent. of the requisite amount of knowledge.

792. Then in your view it is absolutely essential to bring a skilled person to the spot?—It would require at least a hundred times as much knowledge as you can ever hope to instil into an intelligent policeman.

793. The gravity in pretty well every case must be apparent?—That is the important point. It does not matter so much about the distance from a hospital, but there are so many of these accidents which in hospital, as I was saying, you would not move from one bed to another if you could avoid it; therefore, if you had to move them from one bed to another you would only do it in the most careful way, with a skilled attendant absolutely there with the case.

794. You see the importance of getting this clearly from you. You think that it is impossible to train a constable to the extent of seeing or distinguishing between a really grave accident and a slight one?—Yes.

795. That is the first thing?—Yes.

796. Therefore, you must have and bring to the spot, in every case so far as practicable, a skilled person, and some apparatus with proper appliances?—Yes.

797. Both for the treatment of the patient and for his rapid conveyance?—And you must have a conveyance that will also give you the necessary privacy. Even if a doctor is on the spot, he must have some sort of place where he can examine the patient.

798. Then you do not think it would be a proper system which limited its attention simply to rapid transit from the place of the accident to the hospital?—No, I do not.

799. You put that as a secondary consideration?—Yes; rapid transit is not the first consideration; it is secondary, except in so far that you must have rapid transit to get quickly to the patient.

800. Yes, to the patient; but it is more important to have rapid transit in order to get to the patient quickly with these facilities which you have enumerated, than to have rapid transit from the place of accident to the hospital?—Yes, it is more like the fire brigade; if you have a fire to deal with, the engine must be there in absolutely the smallest possible space of time. It is for the firemen then to decide whether they shall play the hose on it or not.

801. The fireman being the doctor?—Yes.

802. Or the skilled person?—Yes.

By Sir William Collins.

803. But would rapid transit without skilled aid be an improvement on the present system?—Yes, a vast improvement on the present system, but not what we should like to aim at.

By the Chairman.

804. You put the other first?—I put rapidity of getting to the accident first for this reason, that if you have only rapid transit without bringing the skilled attendant, you can get over that difficulty to some extent because you can have a proper arrangement with doctors.

805. Do not think that I am questioning your view. I merely wanted to understand your view. Your proposal involves a sufficient number of rapid ambulances, including both horse and motor ambulances, to be always available for an accident happening in the streets?—Yes.

806. Not only must there be the number of ambulances required, but there must also be available and in waiting, a skilled person to go with them?—Yes. That is what I should consider most desirable.

807. And there should be a system, of course, of summoning an ambulance, so furnished, with the greatest possible rapidity?—Yes.

808. And then having got the rapid ambulance there, of course that is the most rapid means of getting the patient to the place where he has to go?—Yes, and one thing extra—that the ambulance should have the proper appliances.

809. Yes, I meant that when I said properly furnished?—Yes. Supposing I were faced with this sort of thing “We will allow the necessary expenses for the rapid ambulance, but we cannot afford the skilled

attendant," my answer would be, "Give me the most skilled attendant you can afford to give me, and then I will make up the difference with doctors who shall be available." One would find out what the hours of the doctors being at home in all the districts would be, and who would be available to be called quickly. But that would not be so good as having a more skilled attendant ready at hand. The New York system is to send a well qualified surgeon in every case with the ambulance.

810. Have you any evidence at all as to how that is carried out. I suppose there must be a great number of accidents in New York?—It is estimated roughly at about 20,000 in the year.

811. Is that really done?—The posts are very much sought after. I hope you will call a New York surgeon at present practising in London, Dr. Cox. He acted as Ambulance Surgeon to one of the biggest hospitals in New York, and is able to testify to the great number of lives which were saved, which, there is no doubt whatever, had they been left a few minutes longer, would have gone. With regard to the fetching of these ambulances, at the present moment if an accident is found the policeman usually stays with the accident until another policeman comes along, and then the second policeman usually walks to a police station or to a hand ambulance stand where he hopes to find an ambulance ready for him. There is nothing to tell him before he gets there whether it is going to be there; if successful, he walks back with it to the patient, places him in the ambulance, covers the patient over out of sight (that is a very bad thing to do), and, accompanied by the first constable, walks to the nearest hospital, followed by a crowd. It is that awful feeling that you will be followed by an admiring crowd which prevents a great number of people going in these wheeled litters. By this primitive process a patient is frequently one hour or more in reaching urgent and essential means of treatment, and sometimes loses his life entirely from this form of culpable negligence. It is so easily overcome. In every other place where there is a rapid-transit ambulance there is no difficulty about it. And then there is this point from an administrative point of view, that the policemen having delivered up their charge at the hospital, take back the ambulance to its stand and eventually find their way back to their beats to resume their natural duties. From the point of view of cost it would be very desirable to know the cost to the community of this leisurely manner of catering for the public safety. The policeman is called off his beat for a very considerable time, and he also is taking a patient in an undiagnosed condition to the essential means of treatment, which may take him an hour.

812. I should like to know what you say to this question. There was a question asked on the second day (260) of the Superintendent of the Holborn Division: "Now, as to the availability of the ambulances, how long does it take generally to get an ambulance after the happening of an accident?" and his answer is, "I made a calculation that out of 325 cases it averaged to get the ambulance and get the person to the hospital fifteen minutes." That is on the question of time. Holborn has a very great number of hospitals?—It is very well situated as regards hospitals. But if that is the average with a hand ambulance, I guarantee that I would reduce it to a third with a rapid-transit ambulance. But that is not the whole point.

813. I know that it is not the whole point; I was only on the question of time?—What is found in countries where the rapid-transit ambulance system is in existence is that the hand ambulance gets chased out of use.

814. You must consider, of course, when you compare one place with another, the different conditions. You must consider the number of ambulances, the places where they are put, the places to which people are taken, and so on, the crowds in the streets, and various conditions?—Yes; but I consider that London, with all its conditions (I have thought these things over very carefully for years) is far more in want of a rapid-transit ambulance service than any other country. In New York the hospitals are far better placed with a view to dealing with accidents than they are in London. We have sometimes two or three hospitals all in a bunch, and then we have, perhaps, a good area without any. In view of the fact that the officials of the Metropolitan Police are persistently complaining that they are not allowed a sufficient number of men to carry out their manifold duties, it appears curious that they should wish to continue to bolster up a street ambulance system which is universally condemned by those who are in a position to judge.

815. Have you enough grounds for saying that they want to bolster it up?—This is the first time, in this inquiry, that I have noticed that the Metropolitan Police actually assume responsibility for the ambulance service. They have definitely, in the evidence that I have seen, made themselves more or less responsible for the present methods, and in talking it over with some of the officials, one of the objections that is raised by some of the junior officials of the Metropolitan Police is that if they allow the removal of these accidents and casualties to go out of their hands so that they deliver up their case when, we will say, a rapid ambulance came along with a skilled attendant, they would lose touch with it.

816. They would lose touch with what?—With the accident. They think the moment they have found that accident they must not leave it until they actually get it into the hospital, until it is actually taken over by the hospital. The answer to that objection from other places is, that you simply look on the ambulance as the hospital, and deliver the case up to the ambulance.

817. That is an argument in favour of your system; but are you now giving that as a criticism upon the present action of the police, or merely as an argument for what you think would be a better system?—I think that is why we have not got a better system, because we are continually trying to bolster up a bad system. The police have definitely pledged themselves and they think there is nothing more wanted than to multiply hand ambulances. My point is, that if we had a million hand ambulances in London we should not be properly served.

818. Still, you do not object to the police doing what they do under present circumstances?—I think they do the work that they have got to do at present splendidly, when you consider that they are untrained. We are asking them to do what is absolutely beyond their power. I do not want to criticise them. I think from the official point of view, quite apart from the medical point of view, they do their very best.

819. You are merely discussing whether the present system could not be superseded by a better one?—Yes.

820. You do not want, as I understand, to go beyond that?—No, not at all.

821. You do not want to raise any question of police administration?—No; but this is a point, I think, which is of practical importance. In Sydney and many other towns where similar methods were in vogue before the establishment of an adequate ambulance service, the authorities afterwards found great relief to the cost and efficient working of the police force when it was no longer necessary suddenly and without warning to withdraw constables from their beats. In the majority of cases it was found that the worst accidents occurred when and where the police were most wanted, and that horsed ambulances, by quickly relieving them of their patients, enabled the constables to continue the investigation of the responsibility of such accidents without being called away from their beats. I think that is a very important point which comes up constantly in London in dealing with accidents. Everybody is in a flurry. The important point for the police to look after is, who is responsible for the accident that is caused. Then, if they can get rid of the medical side of it, so much the easier for them in their natural work.

822. I cannot see that there can be any difference of opinion upon that point at all. If it is practicable, it is most desirable, I should think?—It is done in very many cases. There is abundant evidence to show that both from the administrative and from the medical points of view, a rapid ambulance service is most advantageous to the community. It must also be obvious that the larger the area to be covered and the greater the number of casualties to be dealt with, the more urgent is the necessity of having a rapid ambulance service. The police statistics, as now drawn up, I consider misleading, in that in the first place they give only those cases known to the police; consequently, where the police are most numerous there will be a greater proportion of the accidents that occur known to them and recorded. That is very well marked from the reports I get from outlying districts. In many cases you cannot see a policeman, you cannot get a policeman for a very considerable time, so that the accidents do not get recorded.

823. They do not profess to do anything more than give the accidents known to the police?—No.

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824. They cannot?—No, but if there were a proper ambulance service then it would be the duty of people to report these cases, and a good deal would be known.

825. Whose duty would it be to report them?—We should get everything from the hospitals. A proper Ambulance Board would enter into agreements with the hospitals, and we should get a weekly report, and in that way soon get the information. Then, secondly, the police reports mention very approximately how near to casualties hand ambulances should have been found, if not already in use, without recording the number of such cases in which those ambulances were actually used.

826. Are you referring now to these returns (*Appendix II*) which are before us?—Yes.

827. You have seen them?—Yes. It is no good to know how near the ambulance might have been. Mr. Bischoffsheim told me that one of the greatest objections he had was that he found that when he applied in 1904 to the police, and asked them whether they would not have some more of his ambulances, they said, "Oh! no, thanks; we have got plenty; we do our work splendidly with what we have got;" and he said that constantly the police would not take the trouble to open a box when an accident occurred—it is much quicker to hire the nearest cab.

828. There is, of course, a column in this return with the number of persons conveyed by ambulance to the hospital or infirmary?—Yes, but that column, again, is misleading, because it gives you a total without in any way saying what they were, and whether they were cases a very considerable distance off.

829. That is given in another return, is it not?—They give you the total without giving you any of these cases. They rather get away from it. A lot of these cases would be cases absolutely close to the hospital; they are not so valuable.

830. But there is a return giving the distance where the accident happens from the hospital, showing how many accidents there were at different distances. You cannot put everything in one table. Return No. 3 (*Appendix II., Table (E.)*) is a "Return showing the approximate distance of the nearest hospital or infirmary to which cases of accidents in streets (within the Metropolitan Police District) were conveyed, during the twelve months ended 31st December, 1906," which goes down to distances under a quarter-of-a-mile?—Yes; but then they give you the total number of cases where ambulances were used; they do not give the distance in the particular cases. I should very much like to know as to that.

831. But they are the same cases; they are dealing with 8,002 cases of accidents which happen in the year, and they say, so many conveyed in ambulances, so many happened within a particular distance of the hospital?—But there is a loss in this way: they say so many accidents were within a quarter-of-a-mile of a hospital, but they do not say what proportion of that actual number were taken to the hospital in ambulances.

832. I do not quite follow your criticism. They tell you the number of persons who were conveyed to hospital in an ambulance, and they tell you the distance from the hospital or infirmary at which the accident occurred?—What one would very much like to know is the actual proportion of cases that were taken to hospital in ambulances according to this division into half, a quarter, and the different mileages, because in many cases it would be interesting to know whether a case, for instance, four miles away, was taken in a hand ambulance. If a man is going to walk four miles with a patient in a hand ambulance it is a very considerable thing to do. I think what we should find would be, if that point had been carefully carried out, that the greater the distance away from the hospital in many cases the more the use of a cab.

833. There is no doubt that a horse or motor ambulance is to that extent more needed where the distance is great?—What they find in places where they have a rapid ambulance system is, that they can pick up all the near ones and all the distant ones. It is so rapidly done that they get their work done very quickly.

By Sir William Collins.

834. Is your point that these Tables do not enable you to tell how many of the 1759 cases in column 3 of Return No. 3 which occurred under a quarter-of-a-mile for a hospital or infirmary were taken by

ambulance or otherwise?—I maintain that every one of those cases should have been so taken; and if they were not, I should like to know why they were not; because, we have it that practically all those cases were within a quarter-of-a-mile also of a hand ambulance. It would give us a very good chance of criticising how often the police use these hand ambulances when they have them actually at their door; because Mr. Bischoffsheim distinctly said that he has actually seen them, with one of these boxes close to them, neglect to use it. Then there is another very important point, of course, in criticising these Tables from a medical point of view, namely, that the police take no note of the condition of the patient at the time of the accident, and on arrival at home or hospital. That, of course, is a thing that you get with a rapid-transit ambulance service, and it is of the greatest value; because a patient may at the time of the accident have a simple fracture of the femur, and on arrival at hospital it may be a compound fracture if improperly handled.

By the Chairman.

835. But then you want your skilled person?—Yes.

836. You cannot expect a constable to do that?—No. And from the statistical point of view, you want to know the drawbacks of the present arrangement. We have a lost link there. Nor do they give you the length of the interval between the accident and the arrival at hospital. Taking my case, where it was four minutes away from the hospital, and only four minutes away from where the ambulance ought to have been found if it had been in its place, it would have gone in both these columns of under a quarter mile to swell up the number, and yet the interval was forty minutes between the accident and the arrival of the ambulance at hospital.

837. Is that an isolated experience?—No; it is frequent.

838. You have been called to such cases?—Yes, myself and others. I get the same account from all over London. Nor do they mention the length of time the policemen are absent from their beats. That would appear to be administrative.

839. That is rather another question?—It comes into the matter of the relative cost between the present arrangement and what we propose. It is said that the constables have some method of communicating the fact that they have suddenly been called off their beats. I should like to know the actual way in which they do that and the loss of time that it causes with regard to the conveyance of the patient; because in many outside districts it is most difficult to communicate. The case in favour of a well-organised rapid-transit street ambulance service, though sufficiently strong years ago, has become far more urgent by the increased use of motor traction. This is having the effect of not only increasing considerably the number and severity of street accidents, but also of entirely altering their situation. It is found that now some of the worst accidents requiring speedy treatment take place in more or less lonely roads far removed from the heavy traffic of so-called accident areas, far away also from both hospitals and ambulances, where policemen are not easily found, or so unneeded that they can be spared from their beats for the number of hours necessary to take such cases to home or hospital. A motor ambulance would take speedy relief to such cases, and frequently would be found to be back at its stand after having accomplished its work before the policeman on duty had become even acquainted with the occurrence. Examples of cases that suffer under present arrangements are:—

(1) Practically, the majority of cases occurring to women.

(2) A great number of cases where men or women would have to be partly undressed to diagnose or treat their conditions. We get that when called to cases in the roads; it is most difficult to deal with them in any way.

(3) Cases where diagnosis is difficult but essential to ensure the best prospects of success, and to ensure their removal in a proper manner.

(4) Cases of hæmorrhage, wounds, especially of the abdomen, or bleeding from varicose veins.

(5) Fractures of such a nature as to be easily made compound, and fractures of the base of the skull, which are quite impossible to be dealt with by First Aid.

840. I suppose an injury to the skull is sufficiently apparent even to an unskilled policeman—the gravity of it?—No; in many cases you cannot detect it; in many cases you do not detect it until it is taken into hospital; it is a most difficult thing in many cases.

841. Would he not see thus much, that there was an injury to the head?—He may not know that there is a fracture at the base of the skull, which I am alluding to here—not outside. He may get none of the well-known signs; and it is the slight cases which want the most careful treatment, because those are the cases one can save.

842. But would he not be able to see thus much, that it was an injury to the head?—No; he may not know it at all. A very good case occurred the other day. I have not followed up the actual condition, but an accident occurred near Knightsbridge the other day, when a motor car ran into a hansom and knocked the hansom driver off his box; he was picked up, and the policeman and the crowd were kind enough to stand him up against a post and leave him there while they investigated the accident and sent for the ambulance. They took him off then to St. George's Hospital, and I am told he died the next day. That man was left standing in the street. That was very likely a case of a fracture of the base of the skull overlooked.

843. Where there is a case of that sort, where there is real injury but not apparent, would you be sure that the policeman, or any other unskilled person who dealt with the case, would not think there was no harm done, and would not send for the ambulance. There must be some unskilled person who must deal with the case first?—Yes; and that unskilled person must not be given too much discretion, but must be told in every case to ring up the ambulance.

844. I do not quite follow. A man apparently gets no injury at all?—He was knocked off the cab: this was a very serious accident.

845. There are certain inherent difficulties in the matter, whether you have a horse ambulance or a motor ambulance, or anything else. What strikes me is that you seem rather to be thinking that a horse ambulance or a motor ambulance service will clear those difficulties all away?—No, I am only taking examples of cases in the streets. The invariable rule where such a service is established is that the police have to ring up the ambulance, as long as the man does not insist on walking away. Here was a man who could not move. If a man tumbled down in the street and got up and walked away, nobody would consider that an accident; but where the case is of such a nature that the man does not get up and walk away, then the invariable rule in all these cases is that the police are told to be on the safe side by ringing up the ambulance.

846. If they think it is a case for sending for anything, they must send for the ambulance?—They must ring up. The point is that they ring up on the telephone the ambulance station, the ambulance station is told where the accident is, and they have the discretion to send the proper conveyance that they think necessary. Then, as further examples of cases that suffer under present arrangements, we come to:—

(6) Cases of apoplexy and grave internal injury.

(7) Cases of poisoning, suicidal cases, and cases of gunshot injuries.

(8) Burns; and

(9) Shocks and syncope.

Those take in most of the cases that want special treating.

The following provisional recommendations may be made with regard to a service:—

(1) That there should be one individual made responsible to a controlling authority for dealing with street accidents and medical casualties in the Metropolis, and that such person should either himself be a medical man, or act in association with a thoroughly competent medical man as his second in command.

(2) That a Street Ambulance Department should be created under a selected controlling authority, with power to collect all necessary information in regard to the working of a thoroughly efficient service.

(3) That such department should be kept in touch with all hospitals and institutions where street casualties could be treated, and a daily record kept of the number of emergency beds available in each. At the present moment it frequently happens that patients are taken to hospitals where there are no beds for them, and have to be removed again.

(4) That London should be divided into districts or accident areas, and a properly organised ambulance service with horse or motor ambulances established in each.

(5) That it would be desirable that, where convenient, some of the ambulances should be stationed at or near selected hospitals.

(6) That the whole police force should be not only trained but kept efficient in First Aid training, and should be available, as at present, for rendering First Aid to the injured, for summoning an ambulance and for taking charge of the patient until an ambulance and attendant arrived, but should not be expected to accompany a patient to home or hospital.

(7) That telephonic communication should be made use of in summoning an ambulance, and that as far as possible private telephones should be utilised by arrangements made beforehand.

(8) That there should be no charge for the use of the ambulance. I think that is absolutely essential to its proper working.

(9) That the advisability of establishing small receiving hospitals in the South of London and other thickly-populated districts far away from existing hospitals should be considered. The hospitals in London are very badly distributed, compared with other towns, for dealing with accident cases.

(10) That all the ambulances used should be kept "surgically" clean and in good order.

(11) That a skilled attendant should accompany each ambulance adequately equipped with the necessary appliances.

(12) That the ambulance should be so constructed that the attendant could remain close to the patient and be able to watch and administer treatment if necessary during the entire journey to home or hospital.

(13) That the several ambulance stations should be connected with the central station by telephone, to enable one station to supplement another, or a group of stations to concentrate on to a given area in times of great emergency, after the manner of the London Fire Brigade. The want of that sort of organisation was very much felt in the Highgate tramway accident. In New York there would have been no difficulty whatever; in New York they would have had 31 ambulances there if necessary; and in Boston they would have had 25 if necessary, almost within a few minutes of the occurrence.

The advantages gained in the working of an effective rapid-transit street ambulance service are as follows:—

(1) A comparatively small number of ambulances are necessary to cover a very large area.

(2) These can be kept surgically clean, properly equipped, ready to start within two or three minutes of being summoned, and quickly take a skilled attendant to the seat of the accident.

(3) On arrival the necessary privacy for dealing with a case is at once assured, for there is, as it were, an emergency bed and appliances on the spot. It is then possible adequately to examine the patient, do what is immediately required, and travel rapidly or slowly to hospital as the nature of the case demands. In many cases a long journey to obtain hospital treatment can be avoided by using this temporary hospital for carrying out the treatment required.

(4) One ambulance and one skilled attendant can attend a great number of emergency calls, for if the journeys are short, the ambulance is soon back again, while if they are long it is all the more essential to have a rapid vehicle.

What is called First Aid training, is not more than one per cent. of what is essential for properly dealing with the cases that occur.

847. Properly dealing with cases on the spot before they go to the hospital, do you mean?—Yes; and it is

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absurd to expect to keep the whole force of police up to the latter standard.

848. You could hardly expect that of any of the police, from the Commissioner downwards?—Personally, if you did not follow the New York system of having qualified doctors to attend, one would select medical students. A third or fourth year student would be very good.

849. You said you could not expect the police to do it?—That is the point if you are going to bolster up the present system.

850. You say that you cannot expect the police to give more than one per cent. of the assistance really required at the time of the accident?—Yes, because it is so necessary to diagnose what you have to deal with.

(5) The patient can be taken to the hospital, where there is a certainty of finding an empty bed—that is the greatest point.

The experience gained from efficient ambulance services has proved the enormous advantage to patients of having a skilled attendant travelling to hospital with them in the ambulance, and ready to administer restoratives or other treatment during the journey. Many a life has been saved by this simple procedure. For London, the establishment of such a service would remove what is nothing short of a national disgrace, and a disgrace to the administration of the Metropolitan Police Force, which is in all other respects justly looked on as the pattern to the world, but as regards its provision for street casualties is adversely criticised by the inhabitants of every well-organised city. The medical profession of the Metropolis is unanimous in its condemnation of the present arrangements, and is at a loss to understand why the authorities in charge should persist in their adherence to antiquated opinions upon a subject which is almost entirely medical, and, therefore, outside their province. If the police authorities accept responsibility for dealing with street casualties, it is the duty of the medical profession to insist on the medical arrangements being carried out in a proper manner. The City of London motor ambulance has already proved a great boon to the patients who have been taken to hospital, many of them having stated that there appeared to be no interval between their accident and their reception in the hospital bed. In considering the cost of a desirable service, it will probably be found that the most thoroughly efficient service will be the most economical to the community.

851. That is a comforting statement, but have you worked it out at all?—Taking a service of this sort and comparing it with other ways of doing things, I think that is nearly always found to be the case.

852. I want to know, have you or have any of the associations with which you are connected made anything like a comparison of what the cost of this system would be, whoever is to bear it? That is to say, the number of stations, the number of ambulances, the cost of appliances and medical attendants, the cost of horsing and so forth; has it been at all gone into?—Not thoroughly, because it has not come to the stage yet in which we could do so.

853. When we have a committee, it has come to the stage when we must consider it. We must consider it as one element when we are inquiring into the question?—I think that the most disastrous policy at the present time, seeing that we have such tremendous experience of other countries, would be to have anything that was not really efficient. It would be a great pity to start it if it was not sufficiently strong to make the thing a success.

854. But, still, one wants to know, and those who appointed us a committee will want to know, what would be the cost of what you consider to be a service that is reasonably necessary?—If I myself had to suggest a provisional arrangement for a service, I do not think London ought to be content with beginning with less than 12 or 20 motor ambulances.

855. Would that be enough? What do you mean by "London" in dealing with this service? Do you mean the County Council area and the City?—No; I take a bigger area.

856. Do you take the Metropolitan Police District, as shown on that map on the wall?—As a matter-of-fact, that takes in an enormous district.

857. I know; but it is a question that is perpetually cropping up in various forms?—I should begin with the centre and put ambulance stations out around, and I would not restrict the outside stations as to their mode

of acting. I mean that if there was a big smash five miles out from the station, I would not at all mind letting the ambulance go if it were summoned. Those points with regard to cost are not difficult to get, because if you decided upon a number, supposing it was decided to have 20 stations in London, probably the least expensive way of doing it would be through the London Fire Brigade.

858. You are raising a fresh question there, which the authority should be?—I think from the taxpayers' point of view it would be much cheaper to do it in that way, because we could utilise all their signals.

859. As you have taken a leading part in this question, do you think that before the close of this enquiry you could, either yourself or through some one in connection with you, give us some sort of estimate as to the cost of establishing such a complete system as you have suggested. Your system no doubt is the ideal system?—No, not quite. For instance, in New York they have 31 ambulances, but their ambulances are not absolutely all confined to street accidents and casualties; and in Boston they have 25. London, of course, has a very much bigger area than you want to deal with. I should think, probably, if you began with 20 ambulances you would soon find that the service was absolutely successful, that you would be inclined to increase it by one, or two, or three, or four, if necessary.

860. It is very essential, I mean, to us that we should have in some form or other, a practical scheme?—I could work that out; it is quite a simple matter to work out the cost of a good motor ambulance, and the number of attendants that would be necessary for 20 ambulances, say.

861. How are you going to get your attendants—would you suggest medical students?—I should suggest medical students to begin with; they would be cheaper than doctors, and I think they would do all that is necessary; because now with a five years' curriculum they have plenty of time, and it ought to be a much sought after appointment.

862. We should all desire that we should have, in as definite a shape as possible, what the details of the best system would be, and what the cost of it would be?—Mr. Harrison and I worked it out to some extent some time ago, but we did not bring it to a point. We were advised that it was better to leave that to the Committee.

863. That is what is generally done?—Thirty years' experience in New York and many other cities has removed the matter far beyond the experimental stage. The total cost will naturally appear great, because a great city and a great number of casualties have to be catered for. The savings effected will undoubtedly be far more considerable, these would be counted in the saving of life, of limb, and of irreparable injury, injury to great numbers of people every year, the saving of the time of a large number of constables leaving their duties to attend to work better left to more skilled hands, and the saving of much of the cost borne by the Police Fund at present. If we could possibly get at those figures, which we never can, I think one would find that the comparative cost was not so considerable as one might think.

By the Earl of Stamford.

864. We hear that you have had considerable experience in different parts of the world examining into different systems. Can you tell us in what quarter of the world we had better look to find the most helpful light thrown upon the problem. Which do you think the best system existing?—I think the New York system is one of the best. The present Montreal system is a very good one. Montreal considers it is superior at the present moment to New York. Then Boston, and practically all the big cities of the United States would give you help. There are little differences in nearly all as regards the authorities.

865. It is to America that we should look rather than the Continent of Europe?—I think so. The Paris system is a good one, of course, and the Vienna system is a good one.

866. Have you been able to arrive at any conclusion yet about the merits of the horse system or the motor system?—I think the time is coming now when one, especially in beginning a new service, would be inclined almost entirely to adopt the motor system, especially for the outlying districts of London, where big distances have to be covered.

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867. You think that now the motor system is sufficiently reliable to justify us in doing so?—I think so. A few years ago we went into that point very carefully, and made all sorts of inquiries, and we found the New York people, who had established their motor system very early in the history of motor traction, had naturally a great many disappointing results; but the last report was that they were much more satisfied with what was going on, and they hoped really that it would be adopted as the service; and for London it would be very important, because of the cost of standing-room for these things; one single garage would do to keep them in, and there would be standing places when on duty.

868. Have you ever considered how far the existing ambulance service might be organised, and whether it would be possible to dispense with creating an entirely new system?—I do not think so. I do not think we could do very much with the existing ambulances other than the hand ambulances, because the organisation is very different. It is essential, I think, to bear in mind that a street ambulance service is an emergency service of a very highly organised nature, and there is no organisation, I think, good enough in that respect in London. It is very difficult to make people who are accustomed to deal with cases of illness being removed from houses have the same sort of feeling as regards the importance of speed, and so on, as you get with a highly organised emergency service. The New York system was organised much on the lines of the fire brigade. That was the ideal they looked at.

869. Do you regard the City of London as being now adequately organised?—No, it is only just beginning. The results are very good at present.

870. Are they such as to encourage working in the same direction?—Yes.

871. There is just one expression of yours, which I noticed, which I should be glad to have cleared up, about the police being kept efficient,—that they should not only receive instruction in First Aid in the first instance, but that that should be made universal; you meant, I suppose, that they should be kept up to the mark by examination, and so on?—Yes, some sort of method of that kind. The First Aid, when once taught, is very soon forgotten by people who are not constantly using it; and that is found practically to be the case, that the great number of police who have been taught First Aid very soon are quite incapable of making use of much of it.

872. You recognise, of course, that the police have to deal with street accidents in the first instance?—That is essential.

873. The obstacles to traffic must be removed at once?—Yes.

874. And you consider that adequate instruction in First Aid is as far as it is advisable to go with the police?—Yes, I think so.

875. Of course there must be difficulties from time to time where a case has to be dealt with. It has to be removed from the middle of the road, and it is possible that the constable might not realise the gravity of the accident that has happened?—That you cannot help.

876. We must allow for a margin of cases like that?—Yes, you cannot, of course, help that.

By Sir William Collins.

877. Have you studied any of the systems obtaining in the provincial towns in this country?—Yes, in Liverpool, Birkenhead, and Manchester. Manchester is at the present moment completing its organisation, and I think it would be very valuable, if I might suggest it, that the Committee should consider the advisability of calling Dr. Thorburn, of Manchester.

878. Have those three towns that you have named a horse ambulance system?—Yes. In Birkenhead it is managed through the fire brigade, and has worked very well. In Liverpool it is practically in touch with the fire brigade. The fire brigade and the police are under the same management, and practically the drivers of the fire brigade are the drivers of the ambulances.

879. Is there summons by telephone?—Yes, that is, of course, essential in every service; you could never get on without it.

880. That is the case in those towns?—Yes, and especially in Liverpool, they have a very good system there.

881. Is it the case that the horse ambulance system is at work in Oldham, Bradford, Newcastle-on-Tyne, Huddersfield, Bolton, Blackburn, Bristol, Gateshead, Burnley, Hull and Sheffield?—Yes, and even in Ipswich.

882. In any of the foreign towns or provincial towns in which you have studied the question, where they have adopted a rapid ambulance service, have you ever known them revert to the wheeled litter and hand ambulance system?—I do not remember a single case.

883. Do you think that any of the inertia to which you have alluded in London is owing to the fact that the public have not had an opportunity of studying the advantages of the horse ambulance system for street accidents in London?—Yes, I think that is a very considerable point, and I think it is very well brought out in a book written by Sir Henry Burdett on the Hospitals of the World. In a book of several thousand pages he has devoted half a page to ambulance administration, which shows that practically the whole of our country rather overlooks the advantages of an ambulance system. There is that tendency everywhere, and in London, of course, when any big accident occurs it is unknown to the majority of people and unrecognised, and is very soon forgotten by those who do see it.

884. Should I be right in thinking that the London public have realised the advantages of rapid ambulances for the removal of cases of infectious disease?—Yes.

885. And readily avail themselves of them?—Yes, readily.

886. As regards the wheeled litter, you spoke of some of its disadvantages; you said that sometimes it is used for drunken persons?—Yes; I have heard many people say that they on no account would go in these things because of that.

887. Is it ever used for carrying dead bodies?—I think so. I do not think any reasons like that would prevent the police so using it. If a patient is taken up dead in the street he is, of course, put in. There are a great many deaths from these accidents, which are removed in that way.

888. So far as any privacy is concerned, the ambulance is usually followed by a crowd?—Yes, nearly always.

889. Can you name any advantages of the wheeled ambulance—the hand litter?—No, in its present form it has practically no advantage. I should be very sorry to see a service which would not quickly show that it was more easy to use the rapid service than the hand litter.

890. Is there any kind of street accident or medical casualty which you think could be more advantageously conveyed to hospitals by a wheeled litter than by a rapid ambulance?—None. The patients are put out of sight, that is one of the worst things, too; they are first of all very difficult to keep surgically clean. If you multiply the number you have got, so that you have one to every possible seat of an accident, you would have the worst difficulty of all to contend with, the difficulty of keeping them surgically clean, which is much more important for accidents than almost anything else.

891. Would there be no difficulty in keeping horse ambulances surgically clean?—No, they are beautifully kept.

892. It would be largely a question of intelligent labour in either case, would it not?—No, because with the hand ambulances you would have them multiplied to such an extent that the supervision alone, seeing that they are kept clean, would be enormous. I suppose if you were going to conduct the work of London with hand ambulances alone, you would want several thousand of them.

893. It is on the question of number that you make a distinction?—Partly that, from the point of supervision, and where they are placed.

894. As regards cleansing, I was merely asking you?—Yes.

895. I understand that you are assuming a very large number of hand ambulances requiring to be cleansed as against a comparatively small number of rapidly moving ambulances?—Yes; they would require a vast number of skilled people to clean them. But you cannot make the thing surgically clean unless you know the rudiments of antiseptics. I would not trust anybody to clean an ambulance.

896. I was rather asking you what leads you to think it is easier to keep a rapidly-moving ambulance surgically

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clean than it is to keep a hand ambulance surgically clean?—It is the construction; you take very great care in the construction, and also, of course, there is the matter of numbers.

897. You lay great stress upon the advantage of the rapid-moving ambulance providing temporary privacy?—Yes, I do.

898. For purposes of diagnosis and treatment?—Yes.

899. Especially in the case of women?—Yes, and also in the case of men who have to be undressed. At the present time we have really great difficulty in that.

900. Is there not some ambiguity about First Aid. I suppose even the most elementary First Aid must succeed diagnosis. You must have diagnosis before you can have valuable First Aid of any kind?—Yes, exactly; it is quite essential to have diagnosis if you are going to remove your patient properly.

901. And the police, of course, cannot be expected to diagnose?—No, there is no hope of it.

902. I understood you to suggest as an ideal system a skilled attendant accompanying the rapid ambulance summoned by telephone to the site of the accident?—Yes.

903. I put it to you, I think, in the course of your examination-in-chief: if it were not possible to obtain a skilled attendant, would the rapid ambulance summoned by telephone even without a skilled attendant be an improvement upon the existing system?—Yes, because you would reduce the time for people to be losing blood and the time between the accident and the first treatment considerably. The smaller the interval between the actual occurrence of an accident and the diagnosis, the greater the chance of recovery.

904. But the rapid transit then without the skilled attendant would be better than the wheeled litter without the skilled attendant?—Far better.

905. As to whether a patient's condition is prejudiced by the mode of removal or lack of First Aid, do you think it is easy to establish whether that has been the case in any instance?—It is the most difficult thing possible, because if you take, for instance, a case that dies of hæmorrhage, how are you to prove that that case would not have died before from some other cause. There is an endless chance of quibbling, and it is most difficult. In certain cases the mode of removal is of such a sort that you are absolutely certain you could not have conceived a better way of killing that particular patient than taking him in that way. Take, for instance, a case of apoplexy, or a case of fracture of the base of the skull being taken off in a cab; you can only by inference say that you could not conceive a better way of killing that man than that, but you can never prove that that man would not have died if quietly taken in his bed.

906. Take the case of fracture of the lower extremity, would it be easy for the house-surgeon of the hospital to say whether a compound fracture had been made compound by the nature of the vehicle in which the patient had been removed?—There, again, it is almost impossible. Of course, he may have very strong views on the matter, but he did not see the case when it occurred. He could see that it was of such a sort that he was perfectly certain that if when the fracture occurred it was simple, the means of conveyance must have made it compound. But there is that lost link of not knowing what it was at first.

907. To arrive at a just conclusion, some skilled person ought to see the case at the time of the accident, and at the time of receipt in hospital?—Yes.

908. A constable can hardly accurately determine the nature of the injury in the first instance?—No.

909. And the house-surgeon can hardly retrospectively diagnose the condition at the time of the accident?—That is the difficulty. But the evidence of hospital surgeons who have gone with these ambulances in the various countries is very strong on that point. They see the accident when they get to it in the street and are in a position to say, "Here is a case of all others where it is absolutely clear: there is the broken end of the bone close to the skin and the slightest risk in the removal of that case will send it through the skin and make it compound." They have numbers of cases. These men can all tell you of cases where they are perfectly certain that they have prevented people being killed, to put it mildly.

910. You alluded to the attitude of the police on the subject; you may, perhaps, have read that in 1901 when the London County Council initiated their enquiry, they communicated with the police, and were informed that in their opinion, the necessity for horse ambulances had not then been established?—Yes; I got a similar answer when I went to them in 1904.

911. In reply to question 139, "The policy, I understand" that is of the police at the present time "is to increase the present system, that is to say, of hand litters, rather than to change it as regards either horse ambulances or motor ambulances?" The reply of the Commissioner was "Yes, that is the policy"?—Yes, but that policy unfortunately has always been dictated by the lay mind, and not by the medical mind.

912. Has there been much increased provision of wheeled litters since the agitation of the last five years began?—Yes, it is very noticeable. Every little agitation creates an influx of wheeled litters.

913. Do you think that real improvement could be effected in the direction indicated by that policy?—I do not think there is any chance of doing anything worth doing. I think it is throwing away money to buy these wheeled litters and take up the time of the police in the way we do by sending them off their beats in the way they have to go in using these wheeled litters. That is from the administrative point of view, but from the surgical point of view, I am, of course, quite against it.

914. Do these other towns, the foreign and provincial towns, which you have alluded to, where the horse ambulance system has been inaugurated, still use the wheeled litters as auxiliary to the others or not?—They are there in cases where they have had them before, but they very seldom use them.

915. But the rapid-moving ambulance has become the recognised institution?—Yes. In certain cases where the surgeon would see the case in a road close to a hospital, he might say, "It does not matter in this case, you can bring him on anything you like, a shutter if you like,"—they are very near the hospital, and have got that element of diagnosis.

916. I think you used the expression that the rapid ambulance had chased the wheeled litter off the field?—Yes.

By the Chairman.

917. You say that supposing the hand-ambulance system is carried on, and that that policy prevails, there ought to be some thousands?—I cannot conceive how you could carry it out properly without some thousands, and even then it would not be any good, because we know that some of the worst cases we see are where the accident actually occurred close to a hand ambulance.

918. If you take the number of street accidents, and cases of sudden illnesses happening in the streets, in the area which the police have to deal with, it is about 20,000?—I think it will be found to be very many more.

919. Have you made any estimates of how many horse or motor ambulances would be required to deal with those 20,000 cases?—I should say that you might begin in London with 20.

920. I am not talking of beginning. What you advocate is substituting altogether the one system for the other?—Yes.

921. What I want to know is, whether you have formed any estimate of the number of horse ambulances or motor ambulances which would be required to deal with those cases, so as to carry out your idea of bringing aid at once to the spot, and an ambulance being summoned wherever there was reason for it being summoned, arriving there rapidly with proper appliances. If you have not done so, you will consider it, no doubt, and tell us at a later stage; but have you considered at all, or can you form any estimate of the number of motor ambulances (supposing the system were one in complete working) which would be required for that purpose?—I think from 20 to 30 would be a very good number.

922. Do you think 20 to 30 could serve the whole 20,000 cases?—Yes, on account of the extra distance they can travel. In a great number of these cases they will be outlying cases.

923. But the great mass would be within the accident zone?—Then those are so quickly dealt with that you can pick them up quickly.

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924. Could they be quickly dealt with in the crowded streets of London?—Yes; I am constantly driving about the crowded streets of London, and I find there is very little difficulty; you can get through back ways and so on when you have not got to keep to the thoroughfares. Supposing, for argument sake, that a very big case which you want to deal with is in one of the main arteries of London; you get down to that from a side street.

925. I do not lay much stress upon that particular point, but what staggers me rather is that 20 or 30 ambulances would be sufficient for dealing with such a large number of cases?—You see we take those 20,000 cases over 365 days. I think there is no doubt that it could be done if the motors were good ones, and everything was in working order. I think it would astonish everybody to see the ease which they can be dealt with. In New York the conditions in many ways are much more difficult than ours. New York is bounded so much by water that the traffic is tremendously congested and there they get over the difficulty by giving the ambulances the right of way; they hold up the traffic for the ambulances exactly in the same way as they do for the fire brigade, and there is never any difficulty. Their records for reaching the scene of the accident are

perfectly extraordinary. In many of the places they are off under a minute of being summoned by telephone.

926. In New York, I think you said they are separate from the fire brigade; it is a separate service?—Yes, it is organised in the fire brigade manner. They have the same sort of harness, and so on.

By the Earl of Stamford.

927. You have made yourself acquainted, no doubt, with the number of horse ambulances and motor ambulances existing in London?—Yes, under various bodies, like the Poor Law Guardians; but their ambulances are usually of a very obsolete type.

928. That is your estimate of them?—Yes, I am afraid they would be very little use; it would be very difficult to utilise them properly.

By the Chairman.

929. They would not lend themselves to your idea of a properly furnished ambulance?—I think it would be economically unsound to use them, because of the difficulty in the way.

Mr. T. DUNCOMBE MANN, called in and examined.

By the Chairman.

930. You are a Barrister-at-law and Clerk to the Metropolitan Asylums Board, I believe?—I am.

931. I think you have prepared a statement, which, perhaps, you will deal with as you please. I see that some of the statements in it relate to the removal of infectious cases, and so on, from people's homes, which is not strictly within our reference, but at the same time we shall be glad to hear what you have to say upon that subject, because indirectly, if not directly, it bears upon the subject of our inquiry?—The Metropolitan Asylums Board's hospitals commenced to receive and treat cases of infectious disease in the year 1870. It was not long afterwards that attention began to be given to the many defects in the arrangements for the removal of patients to the hospitals. The duty of removal rested on the several Boards of Guardians, and, as might be expected, the method adopted by those bodies differed in important details. The vehicles were in some cases the property of the Guardians, in others of the Local Sanitary Authority, and in others were hired for the occasion. They were defective in construction, and unsuitable for the safe transport of persons prostrate with disease. In many instances the carriages, after use, were housed in a manner most objectionable and dangerous to the public health—as, for example where a carriage was placed in a yard surrounded by provision tradesmen's carts. Frequent complaints were made of the carriages conveying patients to hospital stopping at public houses, into which the driver's and the patient's friends went for refreshment. Moreover, difficulty was frequently experienced in obtaining a carriage when required, and the delay thus caused increased the danger of the spread of disease. Nurses to accompany the sick were seldom provided; in most cases the patient travelled alone, and occasionally reached the hospital dead or in a dying condition. Sometimes the patients were accompanied by friends, not always sober, who returned home in public conveyances. These circumstances were duly brought to the notice of the Local Government Board, and were enforced by urgent representations by the Medical Officers of Health and Sanitary Authorities. Ultimately, the Asylums Board, by an Act of Parliament passed in 1879, were empowered to undertake the removal of patients from their homes to the Board's hospitals. The Board proceeded very tentatively to erect one station after another, and at last got up to the present condition. The service now consists of eight ambulance stations. Each station contains quarters for the Superintendent and Housekeeper (with the exception of Tooting Bec Station, which is intended to be worked from one of the other stations and has accommodation for only two men); sleeping accommodation, with baths and lavatories, for the male and female staff; a kitchen, mess and store rooms; a laundry, coachsmith's forge, general ambulance store, and equipment room. In each

there are harness rooms and coach-houses, ambulance carriages for acute cases, and omnibuses for convalescent patients. The horses are hired by contract in numbers sufficient to meet the varying exigencies of the service; that is to say, we have a running contract, and the number of horses that we keep goes up and down according to our requirements. All the ambulance stations are connected with the chief office by private telephone lines (that is a very important point), and when the office is closed between 11 p.m. and 9 a.m., they are switched on to the public Telephone Exchange.

932. With regard to horses, does that work well? Can you get horses at once?—Yes; we never take a contract except with very large people, who can always supply them. We never have any difficulty.

By Sir William Collins.

933. The horses are in your own stables?—Yes, they are in our own stables for so many months at a time. We do not hire them for the job. We hire them annually, and increase or diminish the number according as the necessities of the case require. The following table shows the total accommodation provided by the eight stations:—

—	Superintendents.	Housekeepers.	Telephone Clerks.	Drivers, Horsekeepers, and Attendants.
All stations..	7	7	7	178
—	Laundry Women and Servants.	Small-pox Nurses.	Horses.	Vehicles.
All stations..	49	61	134	174

An experienced nurse accompanies each ambulance, and a male attendant to assist the nurse in carrying out the patient when over 12 years of age, from his home, and placing him in the carriage. In cases of severe illness the stretcher bed is taken into the house and the patient is placed upon it, it is then put on to the frame which supports it in the carriage and passed into position. For staircases which are too narrow to allow of the use of the stretcher, a specially designed folding chair is provided. Restoratives and refreshments suitable for patients in a prostrate condition are provided in charge of the nurse. After depositing the patient at the hospital the carriage returns to its station, where it is disinfected

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and thoroughly cleansed before being used for a fresh patient. From the commencement of the Ambulance Service the police have invariably endeavoured to facilitate the passage of the Board's ambulances through the streets, and have assisted the Board in maintaining discipline amongst the staff by reporting any breach of the regulations which has come to their knowledge, such regulations for instance as that none of the staff are ever allowed under any circumstances to go into a public house. For a number of years the operations of the service were strictly confined to the transport of infectious patients to and from the Board's own hospitals; patients requiring conveyance elsewhere made use of public carriages. As far as they could, the police endeavoured to secure the disinfection of carriages after use for infectious purposes. In 1886 the Asylums Board received a letter from the Commissioner of Metropolitan Police enquiring whether the Board were prepared to undertake that duty when applied to, and, if so, upon what terms and where. The Board replied that they were not prepared to offer facilities for the disinfection of public vehicles, amongst other reasons because such vehicles did not admit of efficient disinfection owing to the nature of the padded linings and other upholstery used in their construction. Subsequently communication on this subject passed between the Asylums Board and the Local Government Board; and eventually by Section 6 of the Poor Law Act, 1889 the Asylums Board was given authority to allow their ambulances to be used for the conveyance of persons suffering from any dangerous infectious disorder to and from places other than the hospitals provided by the Board. Lastly, by Section 70 of the Public Health Act, 1891, the use of public conveyances for the transport of infected persons was made unlawful.

934. Is it unlawful for any infectious disease, or only for those which are notifiable?—Only for those infectious diseases which are mentioned in the Act.

By the Chairman.

935. You have something to tell us with regard to an extension of the service?—With the commencement of what was practically a non-infectious branch of the ambulance service, there was brought prominently to the notice of members of the Board the absence of any central ambulance service in London for dealing with private mental, medical and surgical cases. Applications were frequently received at the Ambulance Department for the conveyance of such cases, but they could not be complied with, as the Board's Ambulance Service could only deal legally with infectious diseases. It was true that the machinery of the service was being utilized for the conveyance of imbeciles and children in the Board's charge; but the expenses so incurred were a legal charge, and could be defrayed as part of the Board's general expenses, although not recoverable from the Metropolitan Common Poor Fund, as were the expenses of the service for the transport of infectious cases. On the 28th of November, 1903, the Board passed the following resolution:—"That, in the opinion of the Managers, it is desirable and practicable to extend the operations of their Ambulance Service so as to include the transport of medical, surgical, and mental cases, for which application may from time to time be made by any authority or person within the Metropolis; provided that such extension of the Ambulance Service shall not be held to include the removal of cases of street accident, nor of patients to and from the several lunatic asylums under the control of the London County Council, unless by special sanction of the Ambulance Committee, or, in emergency, of the Chairman of that Committee, or the Clerk to the Board. That upon the necessary legal authority being obtained for the Managers by the Local Government Board, the work be immediately undertaken, and a charge of 7s. 6d. made in respect of each removal and, in addition, a mileage of 1s. 6d. beyond the boundary of the Metropolis." We thereupon undertook, you see, to do it in all except street accident cases, making a certain charge of 7s. 6d.

936. Showing a gradual extension?—Yes, but that is not yet legalised. On the 18th February, 1904, the Local Government Board suggested that the Asylums Board should, in the first instance, place themselves in communication with the London County Council, as they understood the Council had under consideration the question of London Ambulance services. This the Board immediately did, and suggested a conference on the subject, but were unable to obtain it.

By Sir William Collins.

937. I think that witnesses appeared before the Committee of the County Council from the Metropolitan Asylums Board, did they not?—I think not as official witnesses. I have a recollection of having heard that a certain member of our Board did appear before the Committee, but he was not representing the Board officially.

938. Did not Admiral Adeane attend and give evidence?—Yes, but he did not represent the Board officially.

939. He was on the Ambulance Committee at the time?—Yes, but he was not deputed by the Board to go to the County Council, nor was the Board ever asked to send him.

940. I know we had the advantage of his evidence?—But it was purely a private arrangement between the County Council and Admiral Adeane.

941. And also, as Lord Stamford reminds me, were there not communications with Lord Doneraile?—I did not hear of it; I did hear of Admiral Adeane giving evidence, but I believe it was not arranged officially. I believe it was a purely private matter. On the 29th November, 1904, the Board wrote to the Council pointing out that it was upwards of nine months since they had sought a conference with them, and deploring the delay. On the 28th January, 1905, they again wrote and pressed for a reply. At the Board Meeting on the 4th February, 1905, a letter was read from the London County Council in which it was stated that as any action which the Council might take would only deal with the conveyance of cases arising from accidents or casualties in the streets, and not with mental, medical or surgical cases, they thought that no useful purpose would be served by a conference.

942. These cases were excluded by your resolution?—Yes. My Board thereupon sent a copy of the correspondence to the Local Government Board, and asked them, in the face of that correspondence, to sanction the utilisation of the Board's ambulances for the conveyance of mental, medical and surgical cases upon the terms set forth in the resolution of the 28th November, 1903. We had an acknowledgment of the letter, but no further communication has been received from the Local Government Board.

943. Do you think that the Board would still be liable for surcharge if it carried it out?—Yes, I think so, but I think they would have a very good answer to the surcharge. In the meantime, as the Board had no reason to anticipate any other than a favourable reply to their first application, and having regard to the fact that a majority of the Metropolitan Borough Councils, Boards of Guardians, and authorities of general hospitals, had expressed themselves in favour of the work being undertaken by the Asylums Board, the Ambulance Committee had permitted, and are permitting, the non-infectious cases of the classes before-mentioned to be conveyed by the Board's ambulances upon the terms laid down in the Board's resolution of the 28th November, 1903. In the year 1904, 68 cases were conveyed; in 1905, 134 cases; in 1906, 424 cases; and during the current year the number of cases conveyed up to date is just over 400.

944. These are not street accidents?—I cannot say that they do not include street accidents.

945. But they would be very few?—There are a few.

By the Chairman.

946. You come more definitely to that later, do you not?—Yes, I mention that later on. Every precaution is taken to prevent any suspicion of the vehicles or men employed on this work being infected. The ambulances are painted a different colour and are kept apart from those employed on infectious work; also the men wear different uniforms (brown instead of blue cloth), and themselves are responsible for cleaning the ambulances on their return to the station after each removal with utensils specially kept for the purpose. On the 27th April, 1906, the Commissioner of Metropolitan Police wrote to the Asylums Board, stating that two out of three horsed ambulances which were placed at the disposal of the police authorities by benevolent persons many years ago, were now unfit for use and not worth repair, and the third one was of an obsolete pattern, and inquiring whether the Board would replace these old ambulances by new ones, as he understood the Board were contemplating establishing a service for the conveyance of the sick poor from their

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homes to hospitals. In reply he was informed that the Board were not in a position to lend three ambulances to replace those which had become unfit for further use. He was also informed that the Board was anxious that its ambulance service should be available for the general convenience of the public in cases of illness, but that the Board at present had no legal authority to undertake the conveyance of other than infectious cases. Reference was made to the fact that the Board had applied to the Local Government Board for the necessary formal authority for the use of the ambulances for the conveyance of medical, surgical, and mental cases, and it was added that that authority had not been received, but that, in the meantime, the Ambulance Committee had provisionally undertaken to comply with applications for the conveyance of urgent cases, upon payment of a charge of 7s. 6d. for each single journey within the metropolitan area. A copy of the Board's regulations for the removal of infectious cases was enclosed, and other information as to the Ambulance Service was given, and it was suggested that in the event of the police requiring the services of a horsed ambulance, they should apply for one in the same way as they would if one were required for an infectious case. In consequence of this correspondence the Commissioner of Police issued a new Police Order dealing with this subject.

947. The Commissioner of Police has already given us that order. (*See Appendix III. (C.)*)?—Since the date of the order the police have made 8 applications for the conveyance of street accident cases, 10 of illness and 1 of murder. To sum up, the present position of the Asylums Board in relation to a non-infectious ambulance service for London, and its possible extension to the conveyance of accident cases, is this: The Board possesses eight ambulance stations, so situated that every part of London is within easy reach of one or other of them. A two-mile circle drawn round each ambulance station, as you will see, practically covers the whole area of London. (*Handing in a map*). Those circles are two-mile circles.

948. And the ambulance stations are shown by red crosses?—Yes.

By Sir William Collins.

949. Can you say anything about the length of time taken?—Yes, I am coming to that. At six of them (two being now closed, the Mead and the Tooting Bee stations, which are not at the moment required) horsed ambulances for non-infectious or accident cases can be obtained by telephone or otherwise, at any hour of the day or night, and can reach any part of the Metropolis at the most in 30 minutes from the time the application is made.

950. You mean within 30 minutes?—I say at the most 30 minutes from the time the application is made. Absolutely the ambulance leaves the ambulance station within three minutes of the application being received.

951. So that in some cases it would be at the hospital in 30 minutes?—Yes, clearly, but at the most it can reach almost any part of the Metropolis in that time.

By the Chairman.

952. When you send an ambulance to an accident, do you send anybody with it?—It would depend upon the application, but as a rule we do not. We are simply carriers in those cases. We simply send the ambulances. It would be neither difficult nor very expensive for the Board to extend its service as experience might prove to be necessary. Both the initial and the annual cost of extending the ambulance service to the conveyance of accident cases and cases of sudden illness in the streets must largely depend on the number of places at which ambulances are to be kept; that is fairly obvious. But in neither case should the amount be excessive, having regard to the number of ambulance stations, and the quantity of ambulance plant which the Board already possesses; a non-infectious service grafted on to the existing service would, of course, be far less costly than an entirely separate and independent organisation. I submit appendices showing (1) the number of patients removed by the ambulances of the Board; (2) the work of the ambulance service for the 12 months ended the 31st December, 1906; and (3) the annual cost of the Board's existing ambulance service. (*Handing in the same, which are printed in Appendix X., Tables (A), (B) and (C) respectively*).

953. How often are your ambulances sent out; are they in constant use?—They are in constant daily use.

The average number of journeys made per day is over 80. I am speaking, of course, of the infectious service. The non-infectious service is a mere excrescence on the proper service at the present time.

954. How many motor ambulances have you?—The motor ambulance is a matter of quite recent development, and, indeed, it is not yet regarded as being sufficiently advanced to supersede the horsed ambulance. We have at present running two motor ambulances and three motor omnibuses. We have two more omnibuses on order, and are now considering another motor ambulance, but the motor ambulance wants, I think, some more development before it can be regarded as at all established.

955. Have you many cases of breakdowns and delays?—We have the usual motor troubles, but, on the whole, they are working very well.

956. Do you look to the motor ambulance as likely to supersede the horse ambulance?—Not yet.

957. Are they different in construction or in accommodation?—It is not considered that the body which is required in the ambulance can be very conveniently adapted to the ordinary motor chassis. The chassis has to be built rather specially; you want a very long chassis for a motor ambulance body.

958. Are you familiar with the one that they have in the City now?—I have seen it. I rather think it is one of which we had the use for a time, or one very like it. It is exactly the same. I do not know whether it is the identical one.

959. Does that solve the difficulty?—If it is the one that we tried, or one exactly like it, we did not regard it as a success. It was an electric ambulance, and an electric motor ambulance would not answer our purpose at the present time.

960. Why not?—There are many drawbacks to it. Its pace is very limited, and you want to be able to move about the streets rather quicker than the ordinary horse vehicles which are going along. It is also very limited as to distance without recharging, and the recharging facilities in London for electric vehicles are not very numerous. And the distances that we require ambulances to go are such as to put an electric ambulance almost out of court.

961. What is your district?—Practically the same area as the County of London; in fact, I may say I think that it is the area of the County of London, but including also the City.

962. Your evidence rather goes to show that a properly organised system of horsed or motor ambulances need not be very expensive?—Not if it were grafted on to the existing service. I have put in a return of the expense of our ambulance service for two years.

963. That is your second Appendix?—Yes.

964. What does that show?—It shows the total cost of our service, including 170 ambulances, more or less, to be about £26,000. The cost must fluctuate, of course, according to the amount of work done. If infectious disease is more prevalent we require more horses, more staff and more vehicles in use.

965. You have, I think, a complete system of signalling?—Yes, very complete indeed. The whole thing is connected with my office. At my office is a department devoted solely to ambulance work and work connected therewith, and any application received from any part of London in that office for the removal of a patient to hospital is dealt with at once. They know which ambulance station to communicate with. We have private telephonic communication with them, and instruct that station at once to send off an ambulance to the address given, and the ambulance is on its way within a minute or two.

966. From whom do those messages come?—From anyone, the Medical Officer of Health, a friend of the patient, the doctor attending the case, or anyone.

967. How is the place at which they can avail themselves of this means of communication notified to them; how does an ordinary person get to know?—A private person probably does not know, but his doctor is certain to know; and a private person, as a rule, becomes aware of an infectious case requiring removal through his doctor. It is not quite like street accident work, of course.

968. But that is the first thing a man must know, where to go to get an ambulance?—It is perfectly well

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known, of course, by all the local authorities; all the local sanitary authorities know it perfectly well.

969. If a corresponding system were established for street accidents analagous to yours, I do not say worked by you, every policeman would know it?—Clearly. Every policeman knows of our present service; all our instructions for obtaining removal of patients are printed on a large sheet and circulated throughout the police force.

970. How many places are there where means for this direct communication are established; have you any idea how far anyone would have to go?—At every telephone call box and every telegraph office.

971. Is your private wire connected with every telegraph office?—No, that is public communication with us. The private communication to which I referred is from us to our stations; that is our own.

972. The communication which comes to you from the public comes by public means?—Yes, or by any other means available.

973. It is telephonic not telegraphic?—It is of any kind; it may be by letter. I have had communications in the shape of the patient himself walking in.

974. Is there anything in these appendices to which you wish to call our attention?—I think not. I have given you such information as I thought you were likely to require. They show you the sort of plant and staff, and so on, that we possess, and the sort of number that is required to deal with this number of patients.

975. You have no system of sending anyone with the ambulance?—With an infectious patient we send a skilled nurse.

976. But for a non-infectious patient you send nobody?—No, it is not required as a rule, and it is not the kind of thing we deal with. If the police choose to ask us to send an ambulance for a street accident we should send it, but we should only regard ourselves as carriers.

977. And you charge 7s. 6d.? We charge 7s. 6d. so that it can be said to be no charge on the poor rate; all that sort of thing really, of course, is a matter of no moment, because whether the police pay it or we pay it, it all comes out of the London ratepayer.

By the Earl of Stamford.

978. What is the number of your ambulances at present available for non-infectious cases?—It is an unlimited number. I could not tell you the precise number, because we have a considerable reserve, we could increase it to any extent that is likely to be wanted. We keep a substantial reserve of vehicles, and we could practically increase it for any branch of service at any moment.

979. It would be possible for your Board to deal with this matter of street accidents and cases of

sudden illness if on public grounds it seemed desirable?—As the carrying authority, undoubtedly. It seems to me that there are two aspects of the question of dealing with street accidents. There is the provision of the vehicle which is to effect the removal, and there is the finding of the living agent on the spot who is to handle the case and put the machinery in motion for getting the vehicle there; and they are two totally different things, it seems to me.

By the Chairman.

980. Is there anything else which you think would help us that you can say?—I do not know what help I can give you. I am not a supplicant for a street accident service, but I think I may go so far as to say that the Board is in a position to offer a service of ambulances, if you should think it desirable to ask them to do so, much more easily than anybody else can. It has got its organisation and its stations.

981. But, of course, the other part of the necessary provision, or what is said to be the necessary provision, namely, bringing the hospital practically to the patient, is more than you could undertake?—Yes, the necessity for being on the spot and undertaking to be abused by the public if you are not on the spot whenever an accident occurs is another matter altogether, as you will realise. Finding the man who has to send for the ambulance and produce it at the right place is a different matter.

982. But the other part of the work, when you get a message having the ambulance at the right place within a reasonable time, is a part which your Board could undertake?—I believe we could undertake it. I have not gone into the figures because I do not know the extent to which it is likely to be required. I think I heard some such figure as 20,000 cases in the year mentioned by the previous witness.

983. That was Dr. James's statement. The police reports give accidents and cases of sudden illness dealt with by them as amounting to nearly 11,000 last year, but, of course, there may be other cases of which the police do not know?—If we take the number at 20,000 that would mean quite roughly 50 cases a day. The Board could do that, of course, by an extension amounting to something like 50 per cent. of its present accommodation.

984. But you are the only body who really have an organisation which is at all adequate to cope with a need of that kind?—I believe so.

985. The Guardians have a certain number of ambulances?—But they are working separately and independently. If it were of any service to you I think we could do it, with, of course, proper legal authority.

986. Of course you would want that.

FIFTH DAY.

Tuesday, 25th June, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. the EARL of STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Captain J. W. NOTT-BOWER, called in and examined.

By the Chairman.

987. You are Commissioner of Police of the City of London, and you have been so for rather more than five years?—Yes.

988. And previously to that you had been Head Constable of Liverpool?—Yes, for 20 years.

989. And you are also a member of the Central Executive Committee of the St. John Ambulance Association?—Yes.

990. Will you give us the benefit, please, in the first instance, of your Liverpool experience with regard to this question which we are considering?—I went to Liverpool in 1881, and I then found that, although there were a few hand litters available, the majority of cases of accidents and illness occurring in the streets were conveyed on rough stretchers or in cabs or carts. The amount of suffering and of permanent injury caused was appalling, and was brought forcibly to my notice by medical men and others and by personal observation.

Capt. J. W. Nott-Bower.

991. The hand litters, I gather, are the wheeled litters?—Yes, wheeled litters. We had two different patterns of them. One was the St. John Ambulance litter, and the other the Beaufort litter.

992. But both wheeled?—Both wheeled; so that really it was more a difference in the luxury of the two. The St. John Ambulance litter was better fitted than the other. As the great proportion of these cases were removed by the Police I felt that a grave responsibility rested upon the Police Authorities, and in May, 1882, I induced the Watch Committee to provide a complete service of wheeled litters. Those are the litters I have just referred to.

993. Are those of the same type as those used by the Metropolitan Police?—The St. John Ambulance Association ambulances are of the same type. Nineteen of these were obtained, one being placed at each Police station in the City. Arrangements were also made, through the St. John Ambulance Association, for the instruction of the Police Force in the methods of First Aid, instruction which up to that time had been entirely neglected.

994. There was none?—There was none at all up to then. The results very soon showed themselves, and I received from the various hospitals most satisfactory reports as to the great improvement effected. Shortly after this, I think it was in 1883, I came into frequent communication with Colonel Joynson, who was then Chairman of the Northern Hospital, Liverpool, on the question of the desirability of a Horse Ambulance Service, to secure more rapid transit, First Aid attendance *en route*, and other advantages. The Watch Committee could not see their way to do more at that time than to continue the wheeled litter system adopted the year previously. Colonel Joynson, however, was an enthusiast, and was determined to secure a trial of the Horse Ambulance System which should practically prove its efficiency. He, therefore, privately raised funds for the establishment of a Horse Ambulance in connection with the Northern Hospital, obtained stabling accommodation at the Hospital, secured the free and voluntary services of the third and the fourth year medical students to accompany the ambulance, and provided telephone communication to enable the Police to summon the ambulance. By arrangement with the Police a certain district of the City was assigned to this ambulance, and it was summoned by the Police to all cases of street accident or illness occurring within the district, one in which a large proportion of the more serious accidents took place. The services it rendered in the cause of humanity were very great, and its use entirely superseded that of the wheeled litters in the district concerned, save where supplementary aid was needed.

995. Does that include the Liverpool Docks?—That includes a portion of the Docks from Prince's Stage northwards for some distance. It is a portion of the Docks where a good many accidents take place.

996. The Docks at Liverpool are under the Police, are they not?—Yes, they police the Docks.

997. It is not like the Docks in London, where they have their own police?—No. I can point the district out on this map (*pointing out the same*). In the autumn of 1884 the authorities of the Royal Infirmary, Liverpool, took up the question, and a deputation from the committee and the medical staff waited upon the Watch Committee and strongly urged the necessity of establishing a Municipal Horse Ambulance Service in the City. Mr. Reginald Harrison, one of the Honorary Surgeons of the Hospital, attended and furnished the Watch Committee with a complete account of the New York Ambulance Service, of which he had mastered full details during a recent visit to America, dwelling on the very great advantages it secured and pressing very strongly the adoption of a similar system in Liverpool. He was warmly supported by other members of the deputation, including Mr. Charles Langton, the then chairman of the Royal Infirmary. After fully considering the arguments urged, however, the Watch Committee decided that they could not adopt the policy advocated. It therefore became impossible to pursue the matter further at that time.

998. Was that on ground of finance?—I think it was on ground of finance; and there were a great many members of the Watch Committee at that time who thought the hand litter was better than the horse ambulance. A few years later (I cannot give the exact date) the Royal Southern Hospital established a Horse Ambulance System, at private cost, in connection with that hospital.

The Police afforded the same assistance as in the case of the Northern Hospital, and assigned it a district adjacent to and south of that assigned to the Northern Hospital, that part of the district that I pointed out to you; it included what they call the South Docks of the City. The value of this service soon became obvious. I might mention here also some facts which subsequently, no doubt, had considerable weight in securing the ultimate approval of a Police Horse Ambulance System. (1) The Hospital Saturday Committee, an influential body, mainly composed of working men, soon began to take a keen interest in the working of the two hospital horse ambulances. They realised the vital pecuniary importance to working men of prompt and efficient attention and conveyance in case of accident, etc., where life, limb, health, and power of work are at issue. I believe their action and the pressure brought to bear on municipal representatives did much, first to secure the adoption of a full and complete system, and afterwards to make it as popular as it undoubtedly became. (2) In 1886, upon my recommendation, the Watch Committee established a force of Mounted Police, and decided to horse the Fire Engines (the Fire Brigade in Liverpool is a branch of the Police Service) with horses driven and managed by the Mounted Police Establishment instead of with hired horses as before. That change was found to work with both efficiency and economy.

999. That had no immediate connection with the establishment of this ambulance service?—None of these matters had immediate connection with the ambulance service, but I think they had considerable importance in finally causing its adoption. (3) In 1888 I brought under the notice of the Watch Committee the desirability of adopting a Patrol Wagon system, on the American basis. I submitted estimates for the necessary signal alarms, etc., etc., from an American firm, the cost of which was, however, so considerable that the Watch Committee did not consider it wise to incur it in connection with what they deemed a doubtful experiment.

1000. Has that been established since?—Yes. In 1891 the Watch Committee authorised an experiment with the Patrol Wagon system, using telephonic communication only. In 1894 they sanctioned an experiment with signals, under an arrangement with the National Telephone Company, who had purchased an invention brought over from America which I had tested and found suitable for Police purposes, and which was offered at a rental to the Watch Committee. In 1896 the application of this system to the entire City was sanctioned. I produce a sketch showing the inside and outside arrangements of each signal box (*handing in copies*).

1001. Is this a convenient time for you to explain it?—Yes; that is still working there. The general use of this was purely automatic. There are two fire signals, two wagon signals, and an ambulance signal. All the policeman had to do when an ambulance was wanted was to pull down that bell-pull. That gave the signal on the tape at the Central Police Office indicating, first, the number of the box from which the signal came; and, secondly, the alarm—that was, what was wanted, whether an ambulance or the Fire Brigade; and, thirdly, it gave the hour, and, within five minutes, the time the alarm was sent; those are recorded on the tape. On receiving the ambulance call at the Police office the man then telephoned to the ambulance station which had to answer the call, giving the number of the box, the position of which they knew at the ambulance station, so that they knew where to bring the ambulance to.

1002. This then represents the outside of the box?—Yes.

1003. How many boxes had you?—We had about 260 in Liverpool.

1004. How were they opened?—In this way, with two keys: one key was the policeman's key—every policeman had one of those, which he fastened to his chain along with his whistle, and by turning the key he opened the box and had the use of the signal. Then, in addition to those keys, a number of citizen's keys were issued which we allowed anybody to have on payment of £1, I think, and subsequently reduced to 10s., which was simply held against improper use of the key. On using that key, a private individual, when he turned the lock, could open the box and use the signal but could not release the key until a policeman came up with his key and released it; whereby we got the number of the key which set the signal, and thereby had a check on the improper use of the key.

Capt. J. W. Nott-Bower.

1005. The policeman would find this box open with a key in it?—Yes.

1006. Then in fact it does necessitate, does it not, the action of a policeman?—It necessitates the action of a policeman to release the key—not to call the ambulance.

1007. Can you tell us at all how often the ambulance is called?—Last year it was called to 3,008 cases.

1008. By citizens or by the Police?—By the Police almost entirely. I do not think out of those 3,008 cases there would have been 50 called by citizens.

1009. Practically the citizen's key is very little used?—It is so little used that in adopting the system to London I did not think it worth while adopting it.

1010. It was a negligible quantity?—Yes.

By Sir William Collins.

1011. I suppose the citizens can call through other telephonic agencies?—Yes.

By the Chairman.

1012. Do they, as a matter of fact?—Sometimes, but the number called by citizens is really, as you said, a negligible quantity. I do not think, through all the agencies together in Liverpool, we could say 50 out of the 3,000 were called by citizens. The way had now been somewhat cleared for the adoption of a Police Horse Ambulance Service. The practical utility of such a service had been demonstrated by the action of the northern and southern hospitals, the necessity for municipal action had been urged by members of the Hospital Saturday Committee and others, the provision of vehicles, horses and drivers only involved an extension of a system already existing for fire engines, prison vans and patrol wagons, and the necessary signals were ready to hand. In June, 1896, I therefore again reported to the Watch Committee, strongly urging the establishment of a Police Horse Ambulance Service, and in December, 1896, I succeeded in obtaining authority for a police system of five horse ambulance stations; three ambulances were actually ordered, but owing to difficulty in procuring stabling the inauguration of the system was postponed. In May, 1897, a suggestion was thrown out to me by one hospital that it was possible that the hospitals, if approached, might provide stabling and coach-house accommodation, and I then asked the Watch Committee for authority to try and negotiate with them. It was agreed that I should "convey to the authorities of the Royal Infirmary, the Northern Hospital, the Royal Southern Hospital, and the Stanley Hospital, the offer of the Watch Committee to provide ambulances, horses, harness and drivers for day service at each hospital, provided that the hospitals would undertake to provide the necessary stabling, etc., and also (if they desired it) the attendance of an ambulance surgeon or student qualified to render First Aid." Also that "in the event of their acceptance of this offer, that the Watch Committee would complete the Ambulance Service of the city by placing an ambulance at the Central Fire Station for the 'night' service of the four hospital districts, and another at an outlying police station for the 'day and night' service of the outer districts of the city." In November, 1897, I was able to report to the Watch Committee that the hospitals had agreed to accept the offer, and I was then authorised to purchase the necessary ambulances and houses, to take over the northern and southern hospital ambulances, and to inaugurate the system. One additional outlying Police station was subsequently provided with a day and night ambulance service, and the Stanley Hospital ambulance was detailed for night as well as day service; but practically the system to-day is the same as it was in 1897. What the system is so fully described in Sir William Collins's County Council Report on the London Ambulance Service, page 32, that I need do no more than adopt that description as my evidence. The ambulances were called to 3,008 cases during the year 1906, and the highest possible testimony to their importance and efficiency is constantly rendered both by the medical profession, the hospital authorities and the general public. Certainly, nothing would induce Liverpool to give them up, and revert to what is universally admitted there to be an antiquated and inefficient system.

1013. I should like to hear from yourself an account of the working of this system. Is it part of the

instruction to the Police that they are always to summon the ambulance?—Always.

1014. For every accident?—For every accident; that is, for every accident which requires to be moved at all. If a man walks away that would not be so, of course. A man might be knocked over by a cab and really not injured, and walk away; they would not summon the ambulance in that case. But in every accident where the patient requires to be removed the ambulance is summoned.

1015. Where the patient requires to be removed, that is to say, where he is incapable of moving, do you mean, —where he has suffered so much injury that he cannot be left alone?—Yes; but I think I should go rather farther than that, because there might be cases where he might perhaps be capable, in case of absolute necessity, of moving, but where it would be very undesirable that he should try and move himself.

1016. Or there may be cases where he would be really much more injured than he seems to be?—That is so; the Police will always summon the ambulance in any case where there is the slightest doubt. The benefit of the doubt would be given to the ambulance being summoned.

1017. But what I want to know is how much discretion do you leave to the Police?—Absolutely none, except that where in their opinion the patient is fit and able to walk away without injury to himself he is allowed to do so.

1018. It really comes to this then, that the Police must have some amount of discretion left to them. A policeman can only use persuasion; he cannot, of course, force a man to wait for the ambulance?—No.

1019. Nor can he prevent him getting into a cab if he chooses?—No.

1020. Have you found, in the working of it, any difficulty in that way?—Not the least. The practice of the Police is to summon the ambulance in every case.

1021. That is the general rule?—That is the general rule. The only exception to the rule is where a man is clearly uninjured and he says he does not want the ambulance, there is no damage done, and he is going to walk home.

1022. Take it both ways. First; have you found cases where it afterwards turned out that the ambulance ought to have been summoned because the man was more injured than he appeared to be?—No, but I have found cases, where people were taken to hospital, where it was found that really it was not necessary.

1023. That is what I was going to put to you. Are there many of those cases?—Not many, but there are some.

1024. Where the policeman has erred on the safe side?—Yes.

1025. As a disciplinary matter, I suppose you do leave the Police a good deal of latitude. You would not come down on a man for making a mistake?—I should certainly not come down on a man for sending a case to hospital which ought not to have gone, but I should come down upon him if I found that he had sent a case away that he ought to have sent in an ambulance. I think they thoroughly understand their instructions—that in cases of doubt they are to send for an ambulance.

1026. Is there a system of Police orders in Liverpool?—Yes.

1027. In substance what would be the instructions to the policeman? What is he to do?—There are no instructions to use discretion at all. The instructions are that he is to summon the ambulance.

1028. How does he summon the ambulance? Does he go himself, or send somebody else?—That would depend; as a rule he would go himself, but we find in practice, in the thicker parts of the City, that it is only a very short time before two men are up, and one can stand by the patient while the other summons the ambulance.

1029. He would either go himself or stand by while another policeman went?—Yes, as a rule. There have been cases in Liverpool where he would open the box and summon the ambulance, but as a rule his first duty is to stand by the patient.

1030. That is his first duty?—Yes.

1031. Not to leave the patient?—Not if he can avoid it.

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1032. Sooner than leave the patient he would send a bystander for the ambulance?—Yes, as a rule. We have left that very much to the discretion of the man, as so much depends upon the place where the accident takes place, whether he should go himself or send a bystander. There are places where the injured man might be accompanied by a wife or a brother, and he would leave them standing by the patient and go to the box himself.

1033. There must be, in first dealing with an accident, a certain amount of discretion, in fact rather a considerable amount?—There must be a certain amount of discretion.

1034. You cannot do it by hard and fast rules?—No, not absolutely hard and fast.

1035. The general rule being that if there is the slightest idea that the accident is a serious one the policeman is to do all he can to summon the ambulance?—Wherever there is any doubt whatever about the accident being serious, he is to summon the ambulance.

Sir William Collins.

1036. Is it an instruction in black and white that where a street casualty requires removal the ambulance is to be summoned?—Yes. As to cost, I am unable to furnish accurate details. I may state, however, that the rental paid to the National Telephone Company for 265 signal boxes is £2,175 per annum, but the company are now offering to reduce this charge to £1,300 per annum. Of the former amount I should debit to the Ambulance Service £700.

By the Chairman.

1037. The Telephone Company put them up?—The Telephone Company put them up at a rental of £2,175. I reckon the ambulance proportion at £700, because, as you notice, the boxes are also available for the fire service and the patrol wagon service, so that I reckon one third of it. The calls "Wagon (a)" and "Wagon (b)" refer to the way the patrol wagon is to be used. "Wagon (a)" means that if there is a drunk prisoner, say, the wagon goes out, picks up the prisoner and brings him up to the station. "Wagon (b)" means if there is a disturbance on they turn out any men available at the station and pick up the constables on their beat and bring eight or ten men to the spot where the disturbance is, quell the disturbance and then drop the men back at their beats on their way back to the station. Ambulance, &c., charges are included in the general costs of the Mounted Police Establishment, and I doubt whether the City Treasurer of Liverpool could distinguish in such a way as to give you authentic figures.

1038. With regard to the Mounted Police Establishments, are their duties the ordinary duties of the Mounted Police?—Plus ambulance service, the patrol wagon service, prison vans and fire brigade.

1039. Those are all done by their own horses?—Those are all done by their own horses.

1040. Are there separate stables or separate establishments for the ambulances and fire brigade?—No, except so far as what we call the turn-out stations at the hospitals, all horses are stabled permanently at the various fire brigade stations.

1041. If there was a summons for an ambulance would it be horsed by horses which on another occasion would horse a fire engine?—Yes; that is where really I consider the economy of the system comes in, because, for fire brigade purposes, it is necessary to keep a very large number of horses standing ready; at the same time they may stand for days without doing any work; and by utilising them for other services as well you are able to provide them with the work or exercise they need.

1042. Are the horses used by the Mounted Police kept separate?—No. Of course, a certain number of horses are necessarily more or less used for each separate service, but they are all available for every service alike. I am sure, however, that the city authorities are satisfied that the system is economically worked—far cheaper than any separate and distinct system could possibly be, and that it affords a very full return for any expenditure incurred. As an estimate, I am told that about £1,500 per annum represents the ambulance proportion of the entire cost. Assuming the ambulance proportion of the signal system as one-third the total—say £700—the gross cost of the Liverpool ambulance service may be taken as about £2,200 per annum, or (allowing for the reduction in cost of signals) a about £1,900 per annum.

1043. Is that a special wire?—Yes, a special wire; it is all private wire. I think that really concludes the account of the Liverpool system.—In 1902 I was appointed Commissioner of Police of the City of London. I found, on taking up my duties, the wheeled litter system in general operation, and the instruction of constables in First Aid being carried on, though only slowly owing to the small number of classes being held.

1044. How was it carried on? Were they taught in their own time?—Yes, they were taught in their own time. It was voluntary, and the men went or not as they liked. We found that the numbers were not very great. I made it obligatory, and arranged to have all the men in the force, up to the rank of inspector, instructed. With the constant services freely and cordially given by Dr. Gordon Brown, surgeon to the City Police, who really deserves the very greatest credit for the trouble he has taken in the subject, the matter was soon grappled with, until now every constable in the City Police has obtained the certificate of the St. John Ambulance Association, and some 773 men hold the medallion, the badge of permanent qualification.

1045. What proportion would that be?—773 out of 1,100. In February, 1903, I brought under the notice of the Police Committee the defects of the ambulance system of the City, and in February, 1904, in pursuance of a request of the Committee, I reported to them very fully on the question of a horse ambulance system, furnishing full details of a scheme for its adoption in the City of London. I included in that report a suggestion for permanent horsing of our Mounted Police and for the working of the prison vans, as in Liverpool. The total net cost of this scheme (including the provision of two ambulance stations, with three ambulances) was estimated by the Coal, Corn and Finance Committee at £2,000 per annum. This included all increased expenditure for Mounted Police. Very considerable discussion upon this report followed. Criticism of it took generally three directions: (1) that the present wheeled litter system was sufficient for all needs, or at most an increased number of wheeled litters was all that was necessary; (2) that the establishment of a permanent Mounted Police was undesirable; and (3) that a Motor Ambulance Service was preferable to a Horse Ambulance Service. At last, in June, 1906, a decision was arrived at to establish an Electromobile Ambulance Service for the City, and in May, 1907, the present temporary ambulance station at St. Bartholomew's Hospital was opened, and the working of one ambulance commenced. So far, it has been quite a success. On this point I may quote from a letter I received last week from Mr. Anthony Bowlby, C.M.G., Honorary Surgeon of St. Bartholomew's Hospital, who says: "Our patients who have been brought in the new ambulance have . . . suffered much less pain in transit than if they had been conveyed in any other way. I think the new ambulance a complete success." I hand in a specification of the ambulance (*handing in the same*). The following is a description of the system adopted. There are to be two Ambulance Stations, one at St. Bartholomew's Hospital, to serve the western half of the City, and one at Bishopsgate Police Station, to serve the eastern half, the ambulance from the latter running, to a great extent, to Guy's and the London Hospitals. There will be three electromobile ambulances, one on duty at each station, and one in reserve in case of repairs, &c., or very special emergency. Each ambulance will have, in addition to the driver (who is a private servant), one police constable, especially skilled in First Aid, as an attendant. This latter may subsequently be replaced, should the Hospital Authorities approve, by a surgeon or advanced student. The ambulance is summoned either (a) by the new signals, (b) by telephone, or (c) by personal call. The signal system is provided by the Post Office. It consists of 52 boxes, placed all over the City. I produce a map showing the positions (*handing in the same*).

1046. The little red dots show them?—Yes. I also produce a sketch showing inside and outside of those boxes (you will see they are far less elaborate than the Liverpool ones) by means of which an automatic call is sent to the Police Head-quarters. There the clerk in attendance knows whether (a) the ambulance of the district, (b) the ambulance of the other district, or (c) only a wheeled litter from the nearest station is available, and he at once telephones instructions accordingly for the turn out. As soon as the patient is deposited at the hospital the ambulance returns to the station, and the clerk at head-quarters is notified that it is again available.

1047. This is the proposed scheme?—We are working the same scheme, but only with one station at the

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present time. We are not covering the whole city at present, but only a portion of it.

1048. The alternative is the one motor ambulance in one portion, and the wheeled litter in the other?—Yes, the one ambulance in the western portion of the City, and the wheeled litter in the eastern portion.

1049. The motor ambulance only works in one portion of the City?—It only works in the western portion. I produce an estimate of the cost of the service, as above described, amounting probably to £3,000 per annum (*handing in the same, which is printed in Appendix XI.*). That I think concludes the description of the present City of London system.

1050. Is this the first year's working,—the cost of the one station?—£1,500 is the estimated cost of the one station. So far as I can judge, the cost of the second would be about the same. There would be a reduction in some ways, slight increase in other ways. In the signal system, for instance, there would be no more expenditure, but the rental would be increased.

1051. Does the signal system extend over the whole of the City?—Yes, over the whole of the City.

1052. In the City you have of course to deal with a comparatively small area—a square mile?—Yes.

1053. And with the streets being empty at night?—Yes.

1054. Will you tell us what is the number of accidents with which you have to deal?—The average number of accidents is about 2,000 per annum. The number last year was only 1,760.

1055. Where do they occur mainly?—I think all over the City, but of course the heaviest portion is down towards the river.

1056. But that does not include the accidents in the docks?—No, no portion of the docks; we have nothing to do with them.

1057. Not even the old London Docks?—No, no portion of the docks is in the City.

1058. Therefore, they are mostly ordinary accidents, people run over and such like?—Yes.

1059. Are there many cases of sudden illness in the streets?—I think they are mostly accidents. I am afraid I cannot give you any details.

1060. The proportion at any rate is much smaller?—Yes.

1061. But you have not got a separate return of that?—No, I have not got a separate return, but I shall have when the new system is in work, because we are keeping a regular return. I have not had one up to the present time, but speaking generally I doubt whether more than a tenth would be cases of illness in the streets.

1062. In the Metropolitan Police District I think it runs from 8,000 odd accidents to 2,850 odd cases of sickness?—I do not think that our proportion of sickness would be as great as that.

1063. Has this system been at work long enough for you to have any special figures?—I have some special figures which I will produce later on, on one or two rather important points I think.

1064. I think it would be just as well if you would go on with your general evidence?—Speaking generally on the question of the relative value of a wheeled litter system for the conveyance of street casualties and of a system of horse or motor ambulances, I would like just to refer first to what seems to be a very general but none the less erroneous impression, namely, that the only advantage possessed by horse or motor ambulances is that of more rapid transit. Even this advantage is discounted by those advocating wheeled litters, by reference to the supposed fact that for short distances in crowded streets the wheeled litters would be equally rapid. In reply to this, I am of opinion that rapid transport, though a very important consideration, is by no means the only or probably even the most important advantage gained by the use of horse or motor ambulances. Shortly, I should say those advantages are:—

(1) Skilled attendance at the scene of the accident, in the lifting and moving of the patient, and during conveyance to the hospital.

(2) Proper appliances and restoratives brought promptly on the scene.

(3) They can be relied on as antiseptic, whereas wheeled litters may be said to be, as described to me by a surgeon, "multiplying centres for surgical sepsis or infection."

(4) The providing of a sort of travelling hospital where privacy is ensured for the proper rendering of First Aid.

(5) The vehicle (a sort of omnibus) is such that patients do not refuse to use it, as so many refuse to use the wheeled litters though at the cost of pain and often injury to themselves.

(6) More rapid transit.

With regard to the first of these points: It is said that nearly all the Police are now instructed in First Aid and that a policeman is generally on the scene, or at least comes up with the wheeled litter. This of course is perfectly true, but it must not be forgotten (1) that it by no means follows that every constable instructed is really skilled; (2) that he has neither the place nor the appliances to enable even a really skilled man to act to the best advantage; and (3) that attendance whilst he is conveying the patient is necessarily impossible.

1065. How far in your experience do you think you can carry the instruction of constables in First Aid; how far is it practicable to give them a really substantial instruction?—I think so far as instruction is concerned you can carry the instruction to the utmost point necessary, but when you are dealing with a large number of men a large number do not profit by the instruction they receive, and you cannot rely upon them.

1066. And you cannot pick your ordinary Police constable?—You cannot pick an ordinary police constable for an accident, whereas you can pick the limited number of men that you require for a horse ambulance.

1067. I understand that a Police constable is in attendance at the ambulance station?—Yes, that man is in the first place a man specially selected by our surgeon from his knowledge of his aptitude, and also specially instructed, and there is no doubt from what I hear from the hospital surgeons at St. Bartholomew's that their work is most admirably done. I saw a patient myself brought in, and the surgeon at St. Bartholomew's told me that if they had had all the surgeons at St. Bartholomew's they could not have done him up better.

1068. Take that particular case. I suppose we may assume the possibility of a tolerably high average even in a large body—and when you are dealing with the whole of London, you are dealing with rather larger conditions than you are in the City?—Yes, no doubt.

1069. And conditions essentially different in some respect; but, taking a large body of Police like the Metropolitan Police, does your experience enable you to say whether you think a tolerably high average might, under the present system, be reached by the ordinary constable?—A tolerable average. I should not like to use the word "high."

1070. You cannot get everything for 28s. a week, of course?—No.

1071. You think a tolerably high average might be reached?—I leave the word "high" out. I say a tolerable average.

1072. That is to say, an ordinary constable might know generally, in the first place, whether it is a very serious accident or whether it is not?—No, I do not think so, because I think that diagnosis, even for a skilled man, under present conditions, is impossible.

1073. But he might see whether a limb was broken?—I do not think so. I think in many accidents he could not tell whether the skin was broken, or a man may have abdominal injuries and so on, which it would be extremely difficult to detect.

1074. Still there are certain general indications, are there not, which would afford some guide to a man?—I doubt whether the instruction you can give to the average constable would enable him to diagnose whether the injury is serious or not.

1075. You think it safer that he should send for the ambulance if the man obviously cannot walk off by himself?—Yes.

1076. On the other hand, I suppose you would say it would be perfectly practicable to select a sufficient number of constables who could be trusted to go with the ambulance?—Quite. I think there would be no difficulty whatever in finding say 5 per cent. of our men fit for that work.

1077. Who could be told off to that special duty?—Yes.

1078. Let us carry it a step further. Do not you see a practical difficulty, in dealing with London, in sending

persons of higher skill, like medical students or surgeons and so on, with the ambulance, because that has been strongly advised?—I think it is very desirable, but I do not think it could possibly be done unless the hospital authorities would undertake, as they do in Liverpool, to do it.

1079. I understand that even in Liverpool there is a difficulty arising there?—I was told that that had been said, but I cannot ascertain on what authority.

1080. We shall no doubt hear about it?—The reason I say so is that within the last week I have seen in communications from Liverpool hospitals the instructions that they issue to the casualty surgeons, and there is no reference whatever in the private letters that accompany those of any possibility of their giving it up.

1081. Still, in London one can conceive perhaps that it would be difficult to keep up a sufficient supply?—I think probably, as in Liverpool, when you get at the outlying districts of London you would find difficulty. But I think if the hospitals in London would take it up, *con amore*, as the hospitals in Liverpool have done, there ought to be no difficulty in the more central areas of London. In the outer areas, no doubt, it will be necessary, as in Liverpool, to dispense with that hospital aid.

1082. Do you think it equally necessary to have that kind of assistance when the distance between the site of the accident and the hospital is very short; I mean to say, does it become so important then to have such assistance?—I think it is very important, but, of course, the greater the distance the more important it becomes.

1083. What do you say is the time taken in London? What would be the time under your system, or what would you expect to be the average time between the occurrence of the accident and the arrival of the ambulance?—I am putting in a return dealing with that later, giving the actual times we have had taken. The three defects that I have referred to of the wheeled litter are all met by the horse or motor ambulance, with a really skilled attendant.

1084. The really skilled attendant is your trained policeman?—Either your surgeon, your medical student, or your trained policeman. The instructions issued to their casualty surgeons by the various Liverpool hospitals show how complete the provision there made is, and how much importance is attached to it. Mr. Reginald Harrison has given me copies of these instructions, which he obtained last week from Liverpool, and which he has asked me to hand in, as I think he promised in the course of his evidence to furnish the Committee with them (*handing in the same, which are printed at the end of Appendix VI.*)

1085. I see they state that the casualty officers shall be either registered medical practitioners or students considered by the Medical Board to be competent to render First Aid. The casualty officers shall in their turn accompany the ambulance, and shall render such assistance in the hospital as the Committee and the Medical Board shall from time to time determine. Then there is a set of rules to which the attention of the Medical Officer on casualty duty is particularly drawn. We will have those put in?—Yes.

As to the second point (bringing appliances and restoratives promptly to the scene of the casualty), the ambulance has splints, tourniquets, bandages, restoratives, all ready for instant use. In cases of collapse the administration of a restorative at the spot, or *en route*, may mean the difference between life and death; even continued digital pressure *en route* may save death from hæmorrhage, whilst tourniquets and bandages properly applied must frequently do so; and the hospital authorities in Liverpool have informed me more than once that the number of compound fractures in proportion to simple fractures brought in was notably less after the introduction of horse ambulances, proving what a proper use of splints, &c., can effect.

As to the third point (that is as to the antiseptic conditions). Horse or motor ambulances are few in number and under the constant charge of men responsible for their cleanliness and antiseptic condition, whereas wheeled litters are very numerous, and have no one person responsible for their use or condition, which latter is often far from what the safety of the patient demands.

1086. Is that your own experience both in Liverpool and in London?—That is so. I may say that one of the points which led me to urge the horse ambulance in

Liverpool so much was the complaints I had from doctors as to the septic condition that these hand litters were frequently in.

1087. Through their having been used for other purposes?—Yes, they are used for drunken people, and of course their cleanliness suffers even in accident cases. You see they are made with canvas bodies, and they get covered with blood which is left there and not properly cleaned off, and they are only given the ordinary wash down which an unskilled person would give.

On the fourth point (provision of a sort of travelling hospital): In order to apply First Aid properly, it is often necessary partially to undress the patient. Regard to public decency often prevents this being done under the gaze of a crowd of men, women and children, such as are always soon on the scene of an accident. This is so in the case of men. In the case of women it makes proper treatment in a large number of cases practically impossible. With a horse or motor ambulance, this difficulty is entirely got rid of.

On the fifth point (readiness of the public to use the ambulance in preference to cabs, &c.): It has sometimes been suggested that the use of cabs, &c., is so great as to show that ambulances can frequently be dispensed with. In my opinion the fact points to an exactly opposite conclusion. Many people strongly object to being placed on a wheeled litter (or "barrow" as it is often called), and pushed through crowded streets, and exposed to the not always polite comments of a crowd. They prefer to suffer the pain and run the risk of conveyance in an unsuitable vehicle, and insist on being placed in a cab. I am convinced that if proper ambulances were provided the use of cabs would soon be found to be largely decreased. It has almost entirely ceased in Liverpool.

1088. People are familiar with the idea of an ambulance?—Yes, they are familiar with it.

Coming now to the sixth point (rapid transit): I have already stated my view that rapid transit is less important in many respects than some of the other five advantages to which I have referred. Still, it is an important advantage, and I believe an advantage which is secured by the use of horse or motor ambulances, accompanied (as that use must necessarily be for efficiency) by a proper method of "call" by signal or telephone. Even in central and crowded districts I fancy anyone who desired to go a distance of half-a-mile or so as quickly as possible would jump into a cab, or motor omnibus, rather than walk. Does not this fact alone almost prove the point? But it must not be forgotten that ambulances would have an enormous advantage over cabs or motor omnibuses, for (as in the case of fire engines) the Police "hold up" all traffic for them, and ensure them, as far as possible, an unimpeded run. To prove this, I hand in a return showing that the average speed of the new city motor ambulance in the day-time through crowded streets is very little less than the average speed in the night-time when the streets are empty (*handing in the same.*) I must say I was surprised myself to find how small the difference was. You know how empty the streets of the City of London are at night, and how crowded they are in the day-time, and yet in the average time taken in getting to and from an accident there is only 21 seconds difference between day-time and night-time; the day-time being 10 minutes 3 seconds, and the night-time 9 minutes 42 seconds.

1089. That is from the time of the call to the arrival at the hospital?—Yes, it is a most remarkable result, I think, to have established.

1090. I suppose in no part of the City are you at a distance from a hospital exceeding, say, half-a-mile?—More than half a mile—I should think up to about 1,300 yards. I also hand in a return showing the time taken by (1) the electromobile ambulance, and (2) by wheeled litters, attending calls at six identical places and conveying the imaginary patient to the same hospital, showing that one-half of the time is saved by the use of the electric motor (*handing in the same.*) Those times were all taken in crowded streets, as you will see by the times of day, and the circumstances were exactly identical in each case.

1091. These are actual accidents?—The first return refers to actual accidents. The others were test cases. They were imaginary accidents at the same place, and under similar conditions, to see which would do the thing the quickest.

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1092. Are these times taken from an actual happening accident?—They are taken from an actual happening accident.

1093. For instance, taking the first one only, the accident happened at 2.50 p.m., and the conveyance (the motor ambulance) arrived at 2.54, departed at 2.56, and arrived at the hospital at 3 p.m.; that is to say, 10 minutes from the time of the accident?—Yes.

1094. Then the other accident happened at 10.1 a.m., the conveyance (the wheeled litter) arrived at 10.7 a.m., left at 10.9 a.m., and arrived at the hospital at 10.21; it took 20 minutes?—Yes.

By Sir William Collins.

1095. Two minutes appear to be allowed for picking up?—Yes, that was by my instruction; they were to allow two minutes in each case. You see it is exactly fair all round. I selected places, you see, at various distances from the spot, so as to try one mode of conveyance against the other, and you notice that in the six cases there is the same rather remarkable result—almost always the wheeled litter took exactly double the time taken by the motor ambulance.

By the Chairman.

1096. There is one item not shown on this return, is there not, and that is, what is the interval between the time of the accident and the time of the arrival of the ambulance or litter, as the case may be; is that shown?—Yes; in the first case, for instance, the call is at 2.50, and the ambulance arrived at 2.54.

1097. But you cannot very well show that except in an actual case, can you; because the people in charge of the ambulance would be prepared or expecting the call?—They were not expecting the call. I selected these places, and the calls were sent by the Inspector in each case.

1098. The people in charge of the ambulance did not know that the call was coming?—No, they knew nothing about it. The whole proceeding was exactly the same as if it was a real accident, except that there was no patient. You see that it rather confirms the previous return which is taken from the actual working of ambulances over a large number of cases, showing how very quickly, even through crowded streets and in the day-time, the electric motor can get to the scene and take the patient away. Then there is the matter which you have already referred to, as to the necessity generally for a Horse or Motor Ambulance Service, that in the districts where accidents are many, distances (for obtaining a wheeled litter and getting to a hospital) are short, whereas when distances are great, accidents are few. This is, no doubt, absolutely correct; but I venture to think an incorrect inference is drawn from the facts. I hope I have shown that even for *short* distances time is lost by the use of wheeled litters, and that, even if it were not, the other disadvantages of wheeled litters are so great as to make the mere question of time a comparatively unimportant consideration. The argument that accidents are few would hardly appeal to a man crippled for life for want of proper First Aid and proper conveyance, or to a widow and family left destitute for want of a restorative during conveyance for miles in an improper vehicle. It seems to me, on the contrary, to point the moral that where accidents are few the need in each case is more urgent for that rapid transit and proper attention which the present system (or want of system) fails to supply; and that, where accidents are many and distances short, even should there be no great increase in mere rapidity (which, I think, there undoubtedly would be), other most vital advantages would accrue from the establishment of an efficient horse or motor ambulance system: advantages which would save many valuable lives, save many more persons from impaired health, crippled bodies, inability to work, and consequent ruin to themselves and their families, save much unnecessary pain and suffering, and (though that is, of course, a comparatively small matter) save much unpleasantness to the sick and injured, and save gratifying the morbid curiosity of crowds in the streets by the public exhibition of these sad cases. If any further proof were required of the need for a horse or motor Ambulance Service it is surely afforded by the unanimous opinion of the Medical Profession in favour of the establishment of one. Personally, I have not met a single doctor who holds an opposite view, and I doubt whether there is one—certainly not one connected with the staffs of our great hospitals. On such a question as this, it seems to me that such a verdict of the

entire Medical Profession must be conclusive. Then, again, there is the almost universal practice of other great towns, both in this country and abroad. To a citizen of Liverpool or of Manchester, of New York or of Paris, a suggestion to do without an efficient horse or motor Ambulance Service would be received with absolute astonishment. Surgeons of Liverpool hospitals, Dr. Nachtel, of the Paris Ambulance Department, and Mr. Ludlam, Superintendent of the New York Ambulance Department, have personally expressed strong opinions of the great need of such a service for London. To turn now for a moment to a very minor detail, viz: the question of whether a horse or motor system is the better, I venture to express the opinion that much must necessarily depend on local conditions. The horse ambulance has, in my opinion, three advantages over the motor. (1) It can turn in a narrower space, a matter of some importance in London streets; (2) There is less jar and jolt in starting and pulling up; and (3) There is no chance of being left at a standstill owing to failure of machinery. In New York motor ambulances were substituted for horse ambulances a few years ago, and now (Mr. Ludlam states) all those authorities that can afford it are reverting to the horse system. On the other hand, Mr. Ludlam expresses a strong belief in the motor as the future ambulance, and no doubt improvements are being effected in it every day. As I have already said, the Electromobile Ambulance in the City of London has worked admirably. No doubt too, the motor ambulance has the advantage of greater speed. On the question of expense, it is difficult to offer a general opinion. I have no doubt that, worked in conjunction with the mounted Police, or the Fire Brigade, the horse ambulance can be far more economically run than a motor. I think the experience of Liverpool fully bears out this. If, however, local conditions prevent the Police or Fire Brigade undertaking the service, it is probable that the motor ambulance would prove the cheaper, owing to the lesser station accommodation needed and the lesser number of men required to work it. As to which system is the better adapted for the Metropolis I cannot possibly offer an opinion, as I have no detailed knowledge of official or local necessities.

1099. I suppose in Liverpool, where you have to deal with Dock accidents, you get a number of very serious cases,—through things falling from cranes and so on?—Yes.

1100. Do the Dock accidents form a large proportion of the 3,000?—I should think they would at least be one-third.

1101. They are accidents, I suppose, of a somewhat different character from ordinary street accidents?—Possibly, I should not be prepared to say that.

1102. The Police deal with all those?—Yes.

1103. In Liverpool are the distances to the Hospitals considerable in places?—In the Central Districts, those worked by four hospitals, the distances are not great; they would be very similar to those in the central districts of London; but there is a very large outlying area of Liverpool where the distances are considerable.

1104. Do they deal with those on exactly the same system?—Yes, those are dealt with on the same system, except that there are no surgeons attending with ambulances; the Police have to do the First Aid attendance.

1105. Have you had to bring those cases a long way?—We have had to bring them sometimes considerable distances.

1106. There, of course, apart from the question of frequency of accidents, the rapid transit of these appliances is of great importance?—No doubt the further you get away from a hospital the more important is rapidity of transit.

1107. And there are the other advantages as well?—Yes.

1108. Are they all horse ambulances in Liverpool?—Yes.

By the Earl of Stamford.

1109. The Police signalling system, of which you have been telling us, in Liverpool, is quite a different system, I gather, from what has been adopted in the City of London?—Yes, it is.

1110. It looks a very complicated signalling system as used in Liverpool?—It is very complicated electrically, but so far as the use of it is concerned it is quite simple.

1111. Is it costly?—For the 260 signal boxes, the rental charge by the Telephone Company was £2,175, I think, a year; but they are now proposing, and I think there has been an offer made to the Liverpool Corporation, to reduce that rental to £1,300 a year. I suppose they probably feel that they have recouped themselves for the first outlay.

1112. Is it the telephonic system in London?—No, it is automatic in the City of London, but there is telephonic communication as well; but in London, not having the patrol wagon or Fire Brigade to deal with, we do not require the same number of calls, so that there is the automatic call for an ambulance and the telephone for use if necessary.

1113. The automatic system is simpler and much less expensive?—Yes, it is much simpler and far less expensive.

1114. Is there any difficulty about the noise of street traffic in using the telephone?—I think there is, but as a matter of fact we have not been using the telephone; we work entirely by the automatic signal. I think that a skilled man can use the telephone quite as easily, but I doubt whether a man not accustomed to the use of the telephone would find it very easy to use, on account of the street traffic.

By Sir William Collins.

1115. Apparently London outside the City, as regards ambulance accommodation, is somewhat in the same condition as Liverpool was in 1884?—That is so.

1116. You say that in Liverpool the use of the horse ambulance has entirely superseded that of wheeled litters?—Yes.

1117. Is that so in the whole of Liverpool?—Yes, in the whole of Liverpool.

1118. Are wheeled litters practically unknown?—No, the wheeled litters are kept at the station and in case of need for supplementary aid, especially in outlying districts; the ambulance might be away at the hospital, and then the wheeled litter would have to be taken. The ordinary practice in Liverpool is, if one ambulance is out, another horse ambulance is directed to go to the scene.

1119. Is it a rare occurrence to see a street casualty arrive at one of the Liverpool hospitals in a wheeled litter?—Yes, it is a very rare occurrence, I think I might almost say probably not in three cases all last year out of the 3,000.

1120. It took some time apparently to achieve the ultimate approval of the system?—Yes, it takes a long time to educate any public body.

1121. And as regards the public itself, apart from any authority, I gather that there has been a growth of opinion in favour of the horse ambulance?—Quite so.

1122. You refer to the working men especially as realising its value?—Yes.

1123. Apparently you see an advantage in associating the Police, the Fire Brigade and the Ambulance Service?—From the point of view of money—the pecuniary question.

1124. And from the point of view of administration?—Yes, I think also from the point of view of administration. The Police you see are necessarily the authority for summoning the ambulance, and I think there is great advantage in having them as the authority for managing the service as well; but I can quite see practical difficulties in the Metropolis from that point of view.

1125. In such cases as those in which the three services are combined, do you remember instances in which the Fire Brigade work interfered with the ambulance work, or *vice versa*?—Never.

1126. I gather that, so far as you know, the system at Liverpool to-day is that of sending a medical student or casualty officer with the ambulance?—I am quite satisfied that that is the system. I cannot say whether there has been any talk of altering it. That is the system as at present worked.

1127. I see in the regulations for casualty officers which you have been so good as to hand in, one of the instructions to the casualty officers is: "On reaching the patient they should determine the nature of the injury or disease, administer such temporary treatment as may be appropriate, and convey the patient without delay to the hospital," and then apparently they are to consult the house physician or surgeon on duty. I

gather that you rather emphasised in your evidence, not only the advantage of rapid transit, but that the kind of ambulance such as you advocate also surrounds the injured person with privacy, and, as it were, anticipates at an earlier period the hospital treatment that he needs?—Yes.

1128. And in the case of females you naturally regard that as specially important?—In the case of females, I regard it as even more important.

1129. Can you tell me whether in Liverpool there is any ambulance system for the removal of infectious cases?—I think there is, but I cannot give you any details of it. I know that there are ambulances sent, I think, by the Poor Law Authorities.

1130. That would be quite distinct from the service to which you have been referring to-day?—Yes, and I think very necessarily so. I do not think that any body which is responsible for the removal of infectious cases could, with advantage, undertake the emergency service of street accidents, if it were only for the reason of the prejudice which would be caused. I think you would find the same objection to being put into one of those ambulances that there is at present to being placed on a hand litter—people would refuse to enter them, and you could never persuade the public that these vehicles were kept so safely and so antiseptic that they could be put into them. There would always be that prejudice existing; and for that reason I think it very desirable to have any emergency service for street accidents kept entirely distinct and separate from a service which might ever even be used for infectious cases.

1131. You speak of prejudice against wheeled ambulances; I suppose, if the choice were only between a wheeled ambulance and a cab, one of the public might naturally prefer the cab?—They do, as a matter of fact; a very large number of cases refuse to be put on to a hand-litter.

1132. And if the choice was between a cab and a rapidly moving ambulance, do you think that the preference would still be for the cab?—I think then they would be put into the ambulance. It is a respectable-looking vehicle, and there is privacy; it looks merely like a omnibus, and I do not think that people would object to it. That is what we found in Liverpool, as a matter of fact, as I have stated already in my evidence: the use of cabs has practically ceased since the horse ambulance service has been in full work.

1133. I do not think you mentioned the date in 1906 when the City of London decided upon the automobile ambulance; could you give me that?—Not at the moment; I can put it in, if you like.

1134. When you were advising the City Corporation as to adopting an improved ambulance service, did you advise the horse ambulance or the automobile?—I advised the horse ambulance, for the reasons which I have stated; mainly, of course, on the ground of economy, but also for the other reasons which I gave.

1135. Has the experience which you have since had with the automobile ambulance in any way led you to prefer that as the system?—No; I cannot say even now that I would prefer it, but I think it has worked most admirably. I have no objection whatever to urge against it, and we have not had any difficulty at all with it in any way whatever. Of course, the question of expense remains.

1136. I do not think that you mentioned the actual number of cases of accidents and casualties which your automobile ambulance has dealt with up to the present time?—It is not up to the present time quite, but for the first month—from the 13th of May to the 12th of June—it has attended 57 cases.

1137. The total number of street accidents and casualties which the City Police deal with in the course of a year I gather is about one-fifth of the number dealt with by the Metropolitan Police?—About 2,000; you might take it as about a fifth.

1138. Do you think that the nature of the traffic in the Metropolitan area outside the City differs so greatly from that in the City that, whereas a wheeled litter might be desirable in the one case, it would be undesirable in the other?—I should think that, if you took the Mansion House as the centre for the whole of London, you would probably find the further you get the lesser the traffic. In the immediately central parts of the Metropolitan area I should think the nature of the traffic is practically the same as it is in the City, but when you get out into the suburbs it becomes lighter.

Capt. J. W. Nott-Bower.

By the Chairman.

1139. Do you have many accidents where the traffic is most considerable, for instance at the crossing of the Mansion House?—Yes, we have a great many; I could not tell you the number now.

By Sir William Collins.

1140. Does the urban portion of the London area so differ from the City that it would present any practical difficulty to the adoption of the system now in vogue in the City over that area?—No; in my opinion, if it was once adapted in those areas they would be very reluctant to give it up again.

1141. As regards the First Aid, I did not quite gather what you meant when you spoke of permanent qualification?—The St. John Ambulance Association give a certificate when the men are first instructed, and at the end of three years—there is another examination at the end of the second year—if they pass another examination they give them a medallion, which is held to be a badge of permanent qualification. It is thought that if a man has kept up the work which he learned in the first year for three years, so as to be able to pass an examination at the end of three years, he has probably so far assimilated the instruction that he will be able to retain it to the end of his life.

1142. That does not imply any periodical examination afterwards?—No.

1143. I suppose that instruction in First Aid of the Police can never be expected to be directed to securing diagnosis?—Certainly not.

1144. It was suggested by a previous witness that the automobile ambulance which you have in the City was one which was previously supplied to the Metropolitan Asylums Board; is that so?—That is a mistake.

1145. Was it the case in Liverpool, as I think is the case in the City of London, that the ambulance authority paid a rental to the hospitals for the sites of the ambulances?—No, we paid nothing in Liverpool; the hospitals provided the sites free.

1146. You pay a rental to St. Bartholomew's of £91 a year?—No, only £1 1s. for the ground rent. The City have had the temporary station erected, upon agreement with private contractors to pay £91 for the first year's use. The rental for our permanent station at St. Bartholomew's has not yet been settled. They are going to include it in the new pathological block, and the rental is to be fixed between the Corporation and St. Bartholomew's on the basis of the value of the site plus that of the buildings erected.

1147. Have Guy's volunteered a site?—Guy's is outside our area; we have not approached them.

1148. How are you going to manage the eastern portion of the City?—From our own Police Hospital at Bishopsgate; but we shall carry the patients either to Guy's or the London Hospital.

1149. If administrative difficulties were out of the way, do you think that there would be any difficulty in London in housing the ambulances at the Fire Brigade stations? I should have thought not. I am speaking of course rather off the card, as I do not know the accommodation, but from my experience of the Liverpool Fire Brigade I should not have thought there would be much difficulty.

1150. Did you tell us how many ambulances were housed at the Fire Brigade stations in Liverpool?—There are three stations; there is the Central Fire Station, which works the central part of the City, that is the hospital district, at night; and there are two outlying stations, which are Fire Brigade stations, which take the outlying portions of the City.

1151. Then as regards the drivers and First Aid attendants, I gather from the estimate which you have handed in that there are six permanent men. Is that so?—Yes, and they work eight hours a day each.

1152. And you allow for two temporary assistants?—We allow for temporary assistants to enable men if they are sick or on leave to get their days off; and then we work with temporary assistants.

1153. Do you think that number could be reduced for one ambulance?—No, I do not think it could, so far as my experience goes, at present. We cannot work our men more than eight hours a day, those are the police times; and we cannot put men on for longer times with the ambulance than we can on any other duty. They

are bound to get their leave, and they may be sick, and we have to make provision for absence.

1154. Do they reside on the premises?—No, they simply go there for their eight hours as they would go on other duty.

1155. If I remember rightly you have merely a shed for housing the ambulance?—Yes, and a small room at the back for the men to sit in.

1156. Can the ambulance be charged at the shed?—Yes.

1157. I suppose you have not attempted to form any estimate of the cost at which the system in vogue in the City could be extended over the Metropolis?—No, I have not.

1158. Have you found that you have had many false alarms for the ambulance?—We have had none so far.

1159. I think you said that the cost of the motor vehicle, including the generator, was £600?—Yes.

1160. You alluded in your evidence to the supposed fact that for short distances in crowded streets, the wheeled litter would be equally rapid; do I rightly understand from the figures which you have put in to-day, and from your experience, that you think that that alleged fact is not borne out by experience?—I am quite satisfied that the motor vehicle is twice as rapid in the crowded districts as the hand litter.

1161. Were those who were engaged in the experiments of which you have spoken aware of the object to which the information was to be put?—No. Of course they were aware of it, naturally, when they came to the scene, but not previously. I am told that in two of those experiments the ambulance ran over a district into which it had never been before.

1162. Do I rightly understand then, as a result of your experience both in Liverpool and in London, that you think that a community which had once experienced the use of a rapid ambulance system, such as you have detailed to us, summoned by telephone, would not be likely to revert to what you have, I think, called an antiquated and inefficient system?—I am quite sure of it. To anyone knowing, as I do, what an efficient ambulance service is, it is a matter of positive amazement that London can have gone on so long without one.

By the Chairman.

1163. About First Aid instruction, I think you told us earlier that it is a regular part of the Police discipline, I might almost say?—Yes.

1164. Do the Police get their instruction from the St. John Ambulance Association?—Yes, it is given by our own Police Surgeon, Dr. Gordon Brown, who is himself an Honorary Associate of the Order of St. John; and he takes a very great interest in it. It is part of the ordinary duty.

1165. It is given by him?—Yes. We put all our recruits through a course of it on joining, and we have now brought the thing up to date by having all our men, up to the rank of inspector, even the older men, put through the course.

1166. What amount of time do they give to it?—Three hours once a week.

1167. Does that go on for two or three years?—It only goes on until they get a certificate. There are five classes that they have to attend, and then they are examined for a certificate. If a man does not obtain his certificate he is then attached to another class, and he has to attend it in his own time.

1168. I suppose there are some men who never get a certificate?—I do not think we have had a case of that. We have had cases where men have had to go through two courses of instruction, but I do not think we have had any case where a man has failed entirely.

1169. Is it voluntary whether the constable goes on for a medallion or not?—No, we send them on for that, too, and they are allowed time for that under the same conditions, that is to say, if a man fails in what is considered the proper course, he has to go on in his own time until he gets a certificate or medallion.

1170. But as soon as he gets a certificate is there any compulsion upon him to go on?—Yes, we put every man through now up to the medallion; that is the young men, the recruits. We have not forced the older men to do that; the compulsion has only been brought to bear upon them for the first examination.

Capt. J. W. Nott-Bower.

1171. And they do attain to a fair degree of efficiency?—Yes, we have had a considerable number of cases in which the surgeons of the hospitals have reported to me that cases have been very efficiently attended to by constables, that the First Aid has been efficiently rendered; and I generally give the men a small reward when I have those reports, as an encouragement to them to become efficient and to do the best they can in those cases.

1172. Does your City ambulance ever go outside the limits of the City?—No, it would if we were called to an accident near the boundary, but we consider ourselves for the City only. We should not refuse, naturally, to go if there were a serious accident just on the borders; we should treat it just as we treat the

Police service; we always render all the assistance we can to the Metropolitan Police, and they do the same to us; and we should do the same with the ambulance.

1173. Supposing that there was a new system established all over London, I suppose the City ambulance would work in with it?—I should hope that it would work in entire co-operation.

By Sir William Collins.

1174. You had no need to go to Parliament to get power to establish your motor ambulance; it was part of the ordinary charge for the Police, who are under the Corporation?—Yes, and it was the same of course in Liverpool.

Sir JOHN FURLEY, C.B., called in and examined

By the Chairman.

1175. You have had very large experience in ambulance questions in various parts of the world, I think?—Yes.

1176. Would you kindly just state what your general experience has been. You were formerly, I believe, Director of the Ambulance Department of the Order of the Hospital of St. John of Jerusalem in England, of which the St. John Ambulance Association is a branch?—I was one of the three founders of the St. John Ambulance Association nearly 30 years ago. I was Director of Stores, then Director of the Invalid Transport Corps as well, and I am now Deputy Chairman.

1177. Then you have had a great deal of experience in various campaigns?—In six campaigns.

1178. I think you were Commissioner for the British National Aid Society in the Franco-German War in 1870-71?—Yes.

1179. And in Montenegro in the Russo-Turkish War, 1876?—Yes.

1180. And you were Director of the Ambulances Volantes of the French Army during the Commune War, 1871?—Yes.

1181. And you were Director of Ambulances in Spain during the Carlist War, 1874?—Yes.

1182. And you were Chief Commissioner of the British Red Cross Society during the South African War?—Yes.

1183. I think you are going to give us a short account of the development of the St. John Ambulance Association during the last 30 years, and in connection with the Metropolitan Police?—In the short time at my disposal since I was invited to appear here to-day, I have only been able to draw up a brief statement, which I now beg to be allowed to offer. Others can furnish statistics, but I must rely on the general experience of over 30 years, during which time I have done my utmost to assist towards solving the question now under consideration. The St. John Ambulance Association was the first to attempt to cope with the numerous accidents which daily occur in civil life, firstly, by giving First Aid instruction to all classes of the community; and, secondly, by obtaining the co-operation of the Police. Then a few stations were established, the most important of which was that under the western portico of St. Paul's Cathedral, where an attendant is always on duty during the day. Here 585 persons suffering from accident or sudden illness were treated during the last year, making a total since this station was established up to April last of 6,273 cases, a large proportion of which were removed to hospitals or their own homes. At the Duncan Memorial Station, which was placed in 1898 in the churchyard facing the Law Courts, and was then removed to the West India Docks, 344 cases were treated last year, making a total of 1696 since it was first opened. Nothing has prevented the multiplication of such stations but the impossibility to find sites for them. Parenthetically, I may remark that I have had considerable experience of the Rettungs-gesellschaft in Berlin, the Wienerfreiwillige Rettungs-gesellschaft in Vienna, and the Samariterverein in Germany. Of the two latter I have been for more than 20 years an honorary member, and of the last-named I was a member of the original organising Committee. But I know of no ambulance system abroad, or any in England, that would meet the requirements of our own vast Metropolis,

although there is doubtless much that may be learned from them as well as from New York, Boston and Liverpool. Some years ago His Majesty, the King, then Prince of Wales, when visiting Vienna, inspected the ambulance arrangements of the Volunteer Life Saving Society, and he said to my friend Baron Mundy, the founder of this remarkable institution, that he would like to see such a system in London. A few weeks later a Hungarian gentleman appeared in London anxious to prove how King Edward's gracious wish could be realised. He visited every place where he could obtain any information on the subject, and when he came to me I took him to see what the Metropolitan Asylums Board was doing. At the conclusion of his visit he said, "There is nothing we can teach London in ambulance organisation." There can be no doubt that the First Aid instruction which has been so generally given to men and women of all classes of the community has done much to minimise the consequences of street accidents; and in this Metropolis, to which I will limit my remarks, the Police were amongst the first to adopt it, not under direction from superiors, but intelligently regarding the knowledge imparted as adding to their own means of usefulness. In reference to the Police, it may be said that not only should every man in the Force be encouraged to receive instruction in First Aid, but there should be an annual re-examination, otherwise much of the information gained will be forgotten. A few years after the St. John Ambulance Association was founded an Invalid Transport Corps was formed, which has steadily grown in favour with the public. With regard to the Invalid Transport Corps, I may mention, as an example of the experience we have gained from that, that one of the first cases we had was the removal of Mr. Childers from the Mediterranean to Eaton Square. Owing to the arrangements of the Invalid Transport Corps, which I then directed, we were able to bring him in his night-shirt, without having to shift him once from his bed, between Cannes and Eaton Square. That was in great measure due to our knowledge of the material and the measurements required to get a patient into carriages, steamboats and so on. Another step was made when the St. John Ambulance Brigade, now numbering 17,000 men, was developed from very small beginnings. In 1877 this Brigade was first associated with the Metropolitan Police on the occasion of Queen Victoria's Jubilee, and I hope I may be pardoned for mentioning the fact that I had the honour to receive a similar medal to that given to the Police, engraved with the words "Metropolitan Police, John Furley, Esquire, Director of Ambulance." From that time to the present the Brigade has acted with the Police on every public occasion when large crowds have been brought together. I have not the complete figures before me, but between 1895 and 1906, 25,270 cases were treated in this way. Although I have retired from active participation in this special branch of work, I mention these facts to justify my appearance here to-day as representing the St. John Ambulance Association. The position of London with regard to its want of an organised Ambulance system has often been criticised, and comparisons have been made between our Metropolis and some Foreign Cities, notably Vienna, Paris, Berlin and New York; but the relative size of these Cities has not been considered. The vast extent of London makes any comparison impossible, and I venture to assert that no co-ordination of existing but very divergent systems can lead to a completely satisfactory result. What may be and has been accom-

Sir John Furley.

plished in the City proper would not be feasible over the whole of the Metropolitan area. At best, proposals which have been made could only be of a temporary and make-shift character. I have already expressed my opinion as to the system of the Metropolitan Asylums Board in regard to the carriage of infectious cases, and I believe I am right in stating that they have lately undertaken the removal of other cases outside of the duties for which they were established. As to the latter category, they are simply carriers, and their responsibility does not go beyond this. It seems to me that this new departure should be recognised, legalised, and extended. I may admit, perhaps, that for a very long period I was opposed to the Metropolitan Asylums Board taking any but infectious cases, because I know the prejudices referred to by Captain Nott Bower against using the same material. Notwithstanding what is sometimes said in disparagement of First Aid and non-medical attendants, nothing has shaken my faith in the value of those I have worked with and watched for many years, not only in London but in the Provinces, and especially I would say on our railways, in our mining centres, and amongst the Police. It goes without saying that we would always like to have the presence of a surgeon whenever an accident or a case of illness occurs, but it is useless to hope for it. Cases of the most unexpected kind will occur, and the loss of two or three minutes will sometimes determine the fate of the victim. There is a greater similarity between civil and military ambulance work than is generally supposed; in both, the immediate presence of the surgeon is often impossible. It is, therefore, better to rely in the first place on the skill and knowledge of the trained orderlies and certificated ambulance men, knowing that frequently there must be inevitable delay in the arrival of a surgeon. I am strongly in favour of the plan, to which allusion has been made, of a hospital in the form of a surgeon in charge of an ambulance carriage being brought to the sick or injured person in the street, if this can be made practicable; but, failing this, I would for the present rely on the First Aid men and women. This is much more important than rapidity of transport. I cannot agree with what has been said as regards the medical profession having been too much overlooked in this matter. I have had the advantage of being associated in ambulance work with physicians and surgeons in every part of the United Kingdom, and I have always asserted that the St. John Ambulance Association could have had no existence without the advice, goodwill and active co-operation of the profession. On this subject I must again ask to be allowed to give personal reminiscences. Thirty years ago doctors often said to me, "Following your syllabus we can give four lectures, but you must find someone else to give the fifth lecture. Medical men have very little to do with ambulance transport, as we generally see our patients after they have been brought to us either at hospitals or elsewhere." To get over this difficulty I have travelled thousands of miles in order to give the fifth lecture, generally on the invitation of the medical instructor. This has long since become unnecessary, as the younger generation of surgeons are now competent instructors in stretcher drill. I may say that for a long period I travelled 500 miles every week in giving that fifth lecture, and very frequently to Police classes.

1184. The fifth lecture being on what subject?—On the transport of injured persons. I did not attempt, of course, to touch the surgeon's part. I have mentioned the Invalid Transport Corps of the St. John Ambulance Association, and whilst on this subject I should like to mention one of my numerous interesting experiences. On one occasion I had the honour to be invited to meet Sir James Paget and Sir Henry Acland in consultation as to the best manner in which one of their distinguished patients should be moved, and my plan was adopted, and the services of the Transport Corps were accepted. I may also add that on the small committee of this Invalid Transport Corps we had the advantage, from its first initiation, of the advice and active assistance of Sir Edward Sieveking and Mr. Edmund Owen. I mention these cases to show how much we are indebted to the medical profession. Without troubling you with details, I may, perhaps, be permitted to indicate the framework which I would suggest for a street ambulance organisation for the Metropolis.

(1.) The extension of the field for infectious patients, now occupied and so admirably administered by the Metropolitan Asylums Board, to street accidents and cases of sudden illness, as the most practical, economical and efficacious scheme which can be adopted.

(2.) The additional work of the Board to be limited to the transport of patients.

(3.) Existing ambulance stations to be continued under new regulations.

(4.) All detached ambulance material, such as the litters and stretchers of the Police, Mr. Bischoffsheim and the St. John Ambulance Association to be included, as far as may be possible, in the new organisation, and the staff to be strengthened by the addition of the best and most experienced men and women trained in ambulance work that can be obtained.

(5.) The present telephonic communication of the Metropolitan Asylums Board to be extended in such a way as to bring every part of London into touch with the ambulance stations.

To the above remarks, which are necessarily sketchy, I should like to add that I have so high an opinion of the services performed by the Metropolitan Police in connection with the work under consideration, and of the willing help that they are at all times ready to render the St. John Ambulance Brigade when they are on duty together on great public occasions, that I hope nothing will be done to take from them any part of their present ambulance duties in which they are such important factors. Necessarily the Police must always be in the first line, and everything should be done to maintain the present harmonious relations which exist between them and the ambulance men and women with whom they are daily brought into useful contact. A street ambulance organisation for the metropolis requires to be carried out in a large and liberal spirit, and by an official body capable of making its regulations respected. No number of vehicles, such as horse or motor carriages, wheeled litters and stretchers, scattered about the Metropolis for the use of the public, can avail in any sudden emergency unless placed in charge of persons trained to their proper use, and engaged for the special purpose under one permanent authority. This question will never be settled until one homogeneous system is established for the whole of London. If the admirable system of the Metropolitan Asylums Board for infectious cases could be extended with a highly trained and intelligent personnel, well-designed carriages and all necessary appliances—clearly distinguishable from any other service—horses ready to go out at a moment's notice, and the whole connected with one another and with the hospitals, police stations and railway termini by telephonic communication, then this problem of a street ambulance system for London would, in my opinion, be settled.

1185. You said in the early part of your statement that no known system would entirely suit the Metropolis, that it is not possible to import a system either from foreign places or provincial places and simply apply it to the Metropolis. Could you develop that a little further; is it simply because of the size of the Metropolis?—It is on account of the size.

1186. You think there must be a number, more or less, of methods; that one single method would not apply, whether horse, or motor, or hand ambulance?—I think that one uniform system is what is required. I have made no reference to the City because the Police have undertaken this work, and are doing admirable work in my opinion; but the Metropolis is a different thing. I very much admire that Viennese system which has been so much referred to; it is admirable in every way, but it never could be adapted to London.

1187. What is that system, generally? Is it a horse system?—Yes, they have a horse system; horse carriages and ambulance litters and ordinary stretchers, and also boats for accidents on the water; it includes almost everything.

1188. Is not the fundamental difficulty that of seeing what the nature of the accident is at the moment; I mean the difficulty as to the policeman, or whoever it is who first comes to the accident, being able to form some judgment as to the character of it, and as to the mode of transport that is required? If you have various systems somebody must choose between them, whether to send for the hand litter, or the motor, or the horse ambulance, or whatever it may be?—I think that matter has been pretty well considered, and I believe there are means existing now—Captain Nott Bower has referred to the system of signals—through which you could very easily state what kind of vehicle would be required.

1189. But somebody must form a judgment as to that?—Yes.

1190. Is the Police constable, who naturally is the first

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person on the spot, reasonably capable of forming a judgment and exercising a choice?—I think he would be.

1191. You think that he might be trained sufficiently so that in the great majority of cases he could tell at once whether a properly furnished horse ambulance was required, or a motor ambulance, or whether it would be enough to send for the nearest stretcher?—I have no doubt that the police are sufficiently trained for that. There are, of course, difficulties in the matter; you cannot always ascertain what the injury is; and there is the great difficulty, which has been referred to, of the impossibility of unclothing people in the street to see what is the matter.

1192. You think it is possible to give a policeman such general directions that, supposing he had the choice of sending for a properly furnished ambulance, or using a passing cab, or sending for a stretcher which might be close at hand, and which he might get quicker than an ambulance, he would be able in the great majority of cases to exercise an intelligent choice between those various methods?—I think I would rather trust a policeman than I would anybody else, except the highly trained people; but when I speak of highly trained people I mean such men as we have in the Ambulance Transport Service.

1193. Everybody would agree that it is by far the best thing to have at once, or as soon as possible, a suitable conveyance, suitably furnished, and also with a person capable of giving really first-rate advice. The question is whether that is practicable or not?—Undoubtedly that would be the best plan, but I do not quite agree with regard to a horsed carriage being always superior to a wheeled litter. I am greatly in favour of a wheeled litter, especially when it is kept in good hands and kept in a clean state. If I may mention what happened in our early days (it is now a good many years ago), I tried the experiment myself of wheeling a patient from Cannon Street Station to St. Bartholomew's Hospital. There was a man in front with what we usually employed when great crowds are brought together—he had a stick with a little flag attached to it, and he went in front. I am quite sure that in those days we got from Cannon Street Station to St. Bartholomew's much quicker with a two-wheeled litter than we could have done with a horsed carriage; the reason being that, whenever we came to anything like a block, the public, knowing that it was an accident case, did not mind our going on to the pavement, and they got into the road for a time and allowed a clear space, so that we wheeled along rapidly. I cannot give the exact time now, but I know we took it at the time and found that no horsed carriage could have done it in the same time through those narrow streets which lead to St. Bartholomew's Hospital.

1194. I understand that you would not confine the mode of transport to one special class of motor or horse ambulance, but you would make use of various methods?—I certainly would continue to use litters in some places. And with regard to the objection to being seen carried in one of these things, that is got over now because they are all covered in; you cannot see the patient's face.

By the Earl of Stamford.

1195. I should be much interested if you would develop a little further that idea of yours about a central authority for an Ambulance service in London; would you develop it out of the existing Metropolitan Asylums Board, for example?—It is rather hard for me to say how I would have it, but in my own mind I would like to see a board appointed specially for the purpose, including certainly members of the Metropolitan Asylums Board, with the addition, perhaps, of one or two other experienced people.

1196. I should be very glad to have your idea as to what power such a central authority should have?—That would require, I think, a good deal of thinking out, and I should be bolder than I ought to be if I attempted to lay down the sort of scheme which I myself would propose. We have to take into consideration the material to be used; but, as I have just said, I have quite changed my opinion with regard to its being amalgamated with the Metropolitan Asylums Board, because I am quite sure that could be done, and in the most economical way. The cost of such a system as I should like to see—such, for instance, as they have in Vienna—applied to London, would be something enormous; and that is what some of these foreign gentlemen have admitted.

1197. At any rate, your general feeling would be in favour of the utilisation of the existing material and development from the present state of things, rather than setting up an entirely new system—a system *de novo* altogether?—Yes; but I would work all in under one authority; I should not allow more than one authority. And then, I think, there should be three classes of stations: one, which is most important, where you would find horsed ambulance carriages and perhaps in time, motor carriages, which I would make a strong station; a second, where there would be only hand litters and stretchers; and perhaps a third, where you would find only stretchers. But one very important thing, and it is one I have always aimed at myself, is to get something like uniformity of material. The carriages of the St. John Ambulance Association now are all built to take stretchers of a certain size, and there is a great advantage in that; we know that when one of our stretchers comes out of a railway carriage exactly where that stretcher will go; and for civil purposes we find the telescopic handle stretcher most convenient, because you can get it down most staircases, and you can get it into all railway carriages. Then our carriages are built to carry our civil ambulance stretchers, which, when the telescopic handles are drawn out, are exactly the same size as military stretchers; so that if we had, for instance, to carry for the military authorities, our carriage would contain a military stretcher as well as our own. But I am strongly in favour of uniformity of size, although you may make a distinction in matter of handles, either telescopic or fixed. Then as to another point. Mention has been made of the difficulty of getting stretchers down staircases. We have never allowed any difficulty of that kind to beat us. I can remember two cases in which, with our own appliances—employed also for ship purposes—we have been obliged to let a patient down the well of a staircase almost in a perpendicular position without doing him any harm at all; and on one occasion it was quite impossible to get the patient down the staircase, and we had a cart brought up, backed against the house, and the patient lowered from a window into the cart. That shows some of the difficulties one has to contend with.

1198. There has been some mention of prejudice which might be excited against any vehicle used by an authority in infectious cases. Do you see any great difficulty in getting over that?—I do not think there need be the slightest difficulty, because I would not use the same carriages. I do not think I would use the same personnel; but alongside the establishment that they now have I do not see why you should not have clearly distinguishable carriages only for accidents and cases of sudden illness—not infectious cases.

1199. I think we have heard that the vehicles which are used for non-infectious cases by the Metropolitan Asylums Board are painted in a different way and have a different staff altogether?—Yes, I believe they are; but personally I would not hesitate; in fact I have often gone in one of the infectious carriages, knowing how perfectly they are cleansed and disinfected.

1200. Yes, I have seen the process of disinfection myself and I know the thoroughness with which it is done.

By Sir William Collins.

1201. Did I correctly understand you to say that in your experience nothing in the way of an ambulance system that you have seen abroad or outside London could be satisfactorily applied to London?—We might get a great deal of information from them, and we might copy them in many respects, but I do not think the same system could be carried out. For instance, in Vienna, as I said, they have a magnificent establishment where you find doctors and surgeons and First Aid appliances of all kinds, and carriages of every description to carry injured persons, some of them padded to carry lunatics; and it is all under one central roof.

1202. But your distinguished visitor from Vienna, I understood, after you had shown him the Metropolitan Asylums Board's work, said that they had nothing to teach London?—Yes, he said so. He came here quite with the idea that the Austrians could organise something for us in London, in the same way that Dr. Nachtel, I think, came from Paris and suggested the same thing.

1203. Would you suggest that London has nothing to learn in the direction of an improved ambulance service?—

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No, I would not do that; but I do not think any of the foreign systems could be adapted to London as they are now; although I say that we might learn a great deal from them.

1204. I have before me the report for this year of our St. John Ambulance Association, of which you are Deputy Chairman, and I see on page 13 this paragraph: "These figures show the absolute necessity for the extension of the Street Ambulance Service, and that every encouragement should be given to the efforts of the members of the Metropolitan Street Ambulance Association and others who for so long a time past have been persistently moving in that direction. The great increase in motor traffic of all kinds involves a corresponding increase in the dangers to which pedestrians are liable; and though it is true that first aid may frequently be rendered on the spot, it is admitted by the most competent judges, the hospital physicians and surgeons of London, that there is great room for improvement in the mode of conveying the injured. Many communications to the press on this subject have been addressed by the President of the above Association, Mr. Reginald Harrison, F.R.C.S., and though it is satisfactory to record that a praiseworthy beginning has been made in the City itself by the provision of an electric ambulance carriage of an excellent pattern, and the contemplated provision of some 50 First Aid boxes in various parts of the City area, much still remains to be done in the other portions of the Metropolis, which are not under the control of the City Police Authorities. The Departmental Committee appointed by the Home Secretary to enquire into 'existing facilities' for dealing with the cases of accident and sudden illness in the streets has been nominated none too soon." May I take it that that represents your views?—Well, I confess I ought perhaps to have known that there was that passage in the Report, but I did not know it.

1205. May I take it that you do not dissent from it?—Yes. I quite agree to that.

1206. I also understood you to say that no co-ordination of the existing system would lead to satisfactory results in London?—Some time ago I had an opportunity of attending a meeting at Gray's Inn and heard a great deal on the subject, and I confess that from what I heard there I did not see any chance of our coming together in the way that was proposed. I do not believe that it could be done.

1207. Nevertheless, I understand you, as perhaps a counsel of perfection, to urge that one homogeneous system for the whole of London ought to be organised?—Yes, that I certainly think, but you cannot make it out of these different systems that exist now. I would put them all under one authority.

1208. Do I rightly understand that you suggest a new authority to deal with an ambulance service?—I suggest a new authority to take over everything.

1209. Would it be a rating authority?—I have not gone into that. I do not venture to go into that.

1210. In your large experience may I ask whether you have found any instance in which an infectious ambulance service and a street accident ambulance service have been carried out by the same authority?—Yes, I have known of such cases.

1211. Where?—In London once or twice I have known it. I do not mean to say it is done generally, but I am quite sure it is done occasionally.

1212. Do you mean the few instances in which the Police have applied to the Metropolitan Asylums Board to act as carriers for them?—No, I did not mean the Metropolitan Asylums Board at all. I meant rather the Guardians' carriages—the Unions.

1213. You mean that an ambulance belonging to the Guardians, which is sometimes used for infectious cases, is also used for street accidents?—I have known it.

1214. But where there has been any system, either in the provinces or abroad, have you known of any case where the service for infectious disease has been under the same authority as that for street accidents?—No, certainly not.

1215. In Vienna it is not so?—No.

1216. It is a separate system?—Yes.

1217. I think you expressed yourself strongly in favour of an ambulance carriage with skilled aid, if it could be obtained?—Yes, if it could be. If it could be brought rapidly to the patient that would be the best thing. At the same time, I do not believe in too great rapidity, because I have known accidents caused by the ambulance carriages.

1218. I did not quite understand why you regarded the Metropolis as such a different thing from any other place?—Only on account of its size.

1219. Not on account of its nature?—No, only its size.

1220. Does your station at the western end of St. Paul's deal with cases other than those dealt with by the Police?—No, it has been used only for the ordinary cases, which now I conclude would be more generally taken by the police.

1221. Do you know whether the St. John Ambulance Association deals with cases from start to finish, which do not come within the purview of the Police at all?—Yes, they do; I do not know at the present time; Captain Nott-Bower probably knows better than I do, but that is one of the cases in point. I should like to see that station at St. Paul's brought under the Police in London. It has worked very well so far, but it would be better now, I think, if it were brought into closer connection with the Police.

1222. What is the total number of your St. John Ambulances in London? It used to be 25. Do you know whether it is more than that now?—I did not know that we had so many.

1223. When the London County Council made an inquiry in 1901 they were supplied with a list of 25 district stations. I was going to ask you at how many of those there are persons in attendance?—I only know at the present time of two.

1224. Where there is actual service supplied?—Yes, St. Paul's and the Docks. I may say that we should have had many more stations if it had not been for the great difficulty of finding a site, it is almost impossible to get a site. We were very fortunate in getting one under the steps of St. Paul's. It is in nobody's way, and is in a centre where we have had a good many accidents.

1225. I think the representatives of your Association have from time to time intimated their willingness to co-operate in any scheme for systematising an ambulance service for London?—Taking London generally, we have all had a try to do something, but I do not think we have undertaken any large system.

1226. I asked if I rightly understood that the Association would be willing to co-operate in any scheme for organising and systematising an ambulance service for London?—Yes, they would be only too happy.

1227. Is your instruction work in First Aid increasing or diminishing?—It is increasing.

1228. Do you instruct as many of the Metropolitan Police as you formerly did?—No, I think it is mostly done independently of the St. John Ambulance Association. We undertook all the First Classes for many years, but at the present time I am not quite sure how far we instruct them.

1229. You spoke of the desirability of having an annual re-examination of those who are instructed in First Aid. Did I correctly understand that you think it is otherwise apt to become either obsolete or useless?—We find that very much. Perhaps the best classes that we have are amongst the miners. There they are very strong on that point that they must be examined every year, except perhaps in mines where accidents are of daily occurrence, as they are in many. Otherwise they soon forget their knowledge. I heard a question asked to-day with regard to a man not passing his examination. Some people cannot pass examinations, as probably you know. I remember the case of a man who is one of the best men we ever had; he never could pass an examination, but we trusted him with any case.

1230. Is your examination written and practical?—It is written sometimes, I believe. They have now altered it a little, because there are so many cases in which the men and women cannot sit down to a paper examination. Therefore it is mostly practical.

SIXTH DAY.

Friday, 28th June, 1907.

PRESENT:

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Honourable THE EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. GEORGE LAURENCE GOMME called in and examined.

By the Chairman.

1231. You are Clerk of the London County Council and have been so since October, 1900, I believe?—Yes.

1232. Before that you were Statistical Officer of the Council?—Yes.

1233. You have kindly given us in your *précis* various heads on which you are prepared to give us evidence; some of them I think we have pretty well got on the notes, for instance, the existing ambulance provision for London. Is there anything special you desire to add on that subject?—I have nothing special to add. We have sent down the papers which the Council have collected. If there are any points on those upon which you require further information I shall be happy to give it.

1234. We have had them pretty fully dealt with by other witnesses, therefore, if you have nothing special to add, I propose to go on with the next head, which is the instruction in First Aid given by the Council. That is very important, and I do not think we have had that yet, if you would kindly tell us about it?—Courses of instruction in First Aid are given in Evening Schools whenever the responsible Master (or Mistress) forwards to the executive officer for education the names of 20 students desirous of receiving instruction.

1235. Whoever the students are; they may be anybody?—Yes, they may be anybody as long as we get 20 students; then we give a First Aid course. A course consists of 12 weekly lectures with practical work. The instruction is given by a medical practitioner and a member of the school staff. The doctor attends fortnightly. The assistant is present at every meeting, and acts under the medical practitioner's direction; in the week when the medical practitioner is not present the assistant recapitulates the lecture and directs the practical work.

1236. The assistant being a member of the school staff?—Yes.

1237. Are there a certain number of medical men who do the work of instruction, or do the Council get anyone they can?—Dr. Collie has been principally engaged on this work, but it does not necessarily fall to him to do it.

1238. Is he officially connected with the London County Council?—Yes; he is officially connected with the Council; he advises the Council on all matters of staff.

1239. Then Dr. Collie would be the person who would have the standard in his mind, so to speak?—Yes.

1240. What one is thinking of is the degree of efficiency that can be attained by the police or other officers who have to deal with these cases?—I hand in the syllabus of instruction given to these classes; on pages 9 to 23 particulars are given (*handing in the same, printed in Appendix XIII.*).

1241. This is the syllabus of the 12 lectures?—Yes. During the past winter some 336 classes have been held in the evening schools for this syllabus, and of these 85 were attended exclusively by members of the Metropolitan Police Force.

1242. Were those 85 classes designed for and given to members of the Police Force alone?—Yes.

1243. In the evenings, or at another time?—In the evenings; in the Evening School Continuation Classes.

1244. Do the lectures that are given to members of the Metropolitan Police Force differ at all?—They are given entirely on that syllabus, and with very good results so far as I know. The police authorities are very satisfied, I believe, with the results.

1245. Have you any figures at all as to the numbers of the Police Force attending?—Over 2,000 men were instructed during the past winter.

1246. Are they of all ranks, do you know?—Most of them were constables, but a few of higher ranks also received instruction. Then in addition to these courses, there were special courses held at the headquarters of the London Fire Brigade for the instruction of the men of the brigade, and there were five given in the Royal Arsenal, Woolwich, for the instruction of the Arsenal Employees, all under this syllabus which I have put in. Then the Council also sent lecturers, not necessarily in this case medical men, to some 32 Girls' and Women's Clubs and similar institutions. These were trained nurses, including two peripatetic lecturers taken over from the Technical Education Board of the Council. The course of instruction in these cases consists generally of six lectures and practical work. For that there is a special syllabus, which I will hand in to the Committee, on page 20 of this book (*handing in the same*).

1247. These are the lectures which are given to women?—These are the lectures given to Girls' and Women's Clubs by the trained nurses.

1248. How long has this system been at work?—Some four or five years. It was begun under the Technical Education Board in connection with the Girls' and Women's Clubs, but it has been extended considerably in later years.

1249. And especially as regards the police, has the practice of giving special lectures to the police and having the police instructed separately been of recent establishment?—It has been in vogue for the past four or five years, and commenced shortly before the late School Board for London ceased to exist.

1250. I suppose Dr. Collie would be the witness who could give us most information as to the practical working of it, as to the degree of efficiency attained, and so forth?—No doubt.

1251. Is there any other point arising on that? If not, perhaps we might go on to the next subject: London hospital statistics as to the methods of conveyance of casualty cases?—When the Council first took this matter up in 1901 they collected a great deal of information for the purpose of guiding them to a decision, and some of the hospitals furnished a record of the casualty cases brought in during a period of four weeks, showing the mode of conveyance, and so on. I put in a table showing from these special hospitals the result of that inquiry.

1252. Were these statistics from their ordinary records, or were records specially kept?—They were records specially kept.

Mr. G. L. Gomme.

1253. At the request of the County Council?—Yes, it shows a total of 1,949 cases—1,002 walked into the hospital, 608 were conveyed by cabs and carts, 289 by ambulance and 50 by other means, including wagons and carts.

HOSPITAL.	Walked in.	Cabs and Carts.	Ambulance.	Other-wise.	TOTAL.
St. Bartholomew's ..	123	141	30	5	349
Royal Free	—	55	16	—	49
Guy's	—	207	35	4	304
Great Northern Cent. ..	—	55	11	—	46
London	812	118	35	1	966
King's College	14	17	11	—	42
Westminster	(Say) 7	(Say) 8	(Say) 4	—	19
St. Thomas's	—	40	30	28*	98
Poplar	(Say) 46	(Say) 9	(Say) 9	(Say) 12	7
Total	1,002	608	289	50	1,949

* Including wagons, carts, trams, walking, &c.

Then, at the instance of Sir William Collins, who was Chairman of the Special Committee of the London County Council at the time, special observations were made at the London Temperance Hospital from August, 1901, to January, 1902, from which observations it appeared that out of 203 cases conveyed to the hospital, 48 were brought in four-wheeled cabs, 102 in hansoms, 22 in vans or carts, 3 in bath chairs, 1 in a barrow, 19 in ambulances, and 8 on hand stretchers.

1254. Are these all cases of accident or illness occurring in the streets?—Yes.

1255. It does not include any other cases?—No; only the accidents in the streets.

1256. Not casualties occurring in public-houses or anywhere of that sort?—No, simply accidents in the streets. Then, in order to supplement these returns, a record was kept for a few weeks, about a year ago, of the vehicles in which persons injured were conveyed to St. Thomas's Hospital. This was obtained by the Council's Medical Officer, Sir Shirley Murphy, showing that out of 115 cases, 49 were removed in cabs, 44 in police hand-ambulances, 10 in vans, carts, etc., 3 on barrows, and the rest in miscellaneous ways. Of 12 cases of fractured leg, 8 were removed in police or street ambulances, 3 in hansom cabs, and 1 in a tramcar. The average length of time occupied in removing accident cases occurring at distances from St. Thomas's Hospital of from one-and-a-half to two miles was 31 minutes, the average of all cases under two miles distant from the hospital being 24 minutes.

1257. Do you know from what period that is calculated—from the time of the accident, or the time of arrival of the vehicle, whatever it is?—I think it is from the time of the accident.

1258. I wonder how that time was ascertained, do you happen to know?—This information was obtained by the Council's Medical Officer. I do not know that the papers show that detail.

1259. The constable would probably put down the time of the accident, otherwise I do not see whose business it would be?—Yes, it would have to be done in conjunction with the police, of course, in some form, unless it was obtained by the hospital authorities at the time when the patients were received. Then, from another record which was kept of casualty cases brought to Guy's Hospital, it appears that, in the four weeks from March 27th, 1906, out of a total of 302 cases, only 61, or about 20 per cent., were conveyed in ambulances, the remaining 80 per cent. being brought in cabs, vans, barrows, or other vehicles. Then I have a little table showing the vehicles actually used in these cases.

1260. This is according to the hospital records?—According to the hospital records the vehicles actually used were as follows:—

Ambulances.	Cases of Accident.	Cases of Illness.
Metropolitan Police... ..	14	4
City Police	11	6
Bischoffsheim	9	4
Metropolitan Asylums Board ..	—	2
Woolwich	1	3
South Eastern Railway	2	—
Barber & Son (Whitechapel) ..	1	—
Ilford	1	—
Surrey Commercial Dock	1	—
Edmonton	—	1
St. John's	—	1
	40	21

And then by any means other than ambulances—

	Cases of Accident.	Cases of Illness.
Cabs	49	91
Vans	45	3
Perambulators	1	2
Broughams	3	12
Traps	5	—
Barrows	17	3
Milk Cart	1	—
Midland Railway Omnibus... ..	—	1
Motor Omnibus	1	—
Brighton Railway Bath Chair ..	3	1
Brighton Railway Stretcher ..	1	—
Motor Car	—	1
Bath Chair	—	1
Forward (Ambulances)	40	21
	166	136

—The evidence from all the medical men seems to point to the fact that a great deal of suffering and injury was caused by the delay and the unsatisfactory methods of conveying patients under present conditions.

1261. We are having a good deal of medical evidence?—So I understand.

1262. No doubt it will be a very prominent feature of the inquiry?—No doubt.

1263. Perhaps you will now tell us something about the history of the action taken by the various public authorities?—The matter had arisen in various districts and at various times, and in particular the Metropolitan Borough Councils of Hammersmith, Fulham, Battersea, Poplar, Wandsworth, Greenwich, Bethnal Green, Finsbury, Woolwich, Lambeth, Hackney and Kensington, have urged the Council to consider as to the establishment of an Ambulance Service for London.

1264. Were those representations made with reference to an Ambulance Service generally?—With reference to an Ambulance Service generally.

1265. Not merely, I mean, with reference to street accidents—of course the two questions are very closely connected?—I think the general meaning of these representations was that street accidents were the principal feature at all events, if not the sole one. Then a Conference of Sanitary Authorities on the Public Health (London) Act, 1891, was held for various purposes on the 7th July, 1904, and among the resolutions passed by the Conference was this one:—"That the Conference desires to express the opinion that should the London County Council not be able to provide for a Street Ambulance Service, the duty should be undertaken by the Metropolitan Asylums Board." Then a Conference of the Metropolitan Poor Law Authorities was held at Gray's Inn on the 9th of February, 1907, when the following resolution was adopted:—"That this Conference is of opinion that an effective ambulance service for London can be established and maintained without expense to the public rates, by co-ordinating and developing the existing services, and by empowering the Poor Law Authorities of the Metropolis, namely, the Metropolitan Asylums Board and the Boards of Guardians, to place the ambulances they possess at the disposal of the public."

1266. Was that Conference of the 9th of February, 1907, a Conference of Metropolitan Poor Law Authorities; that is to say, the various Boards of Guardians?—Yes.

1267. And Borough Councils?—No, simply the Poor Law Authorities.

1268. The Metropolitan Asylums Board?—I am not quite sure whether the Metropolitan Asylums Board was represented there.

By the Earl of Stamford.

I can say that it was not officially represented there.

By the Chairman.

1269. It was practically the Guardians?—Simply the Guardians of the Poor. On that point of the Metropolitan Asylums Board, I should like to put in a letter that was received by the Council from the Board on the 27th February, 1904, indicating that the managers were not prepared to extend the operation of the ambulance service to the removal of cases of street accident.

1270. On what ground did they come to that decision?—Shall I read the letter?

1271. If you please?—"Sir,—The Metropolitan Asylums Board for some considerable time past have had under consideration a proposal for extending the operations of their Ambulance Service to the transport of

Mr. G. L. Gomme.

medical, surgical and mental cases, and on the 28th November, 1903, they passed the following resolutions:—
 'That, in the opinion of the Managers, it is desirable and practicable to extend the operations of their Ambulance Service so as to include the transport of medical, surgical and mental cases, for which application may from time to time be made by any Authority or person within the Metropolis, provided that such extension of the Ambulance Service shall not be held to include the removal of cases of street accident, nor of patients to and from the several lunatic asylums under the control of the London County Council, unless by special sanction of the Ambulance Committee, or, in emergency, of the Chairman of that Committee or the Clerk of the Board.'
 'That, upon the necessary legal authority being obtained for the Managers by the Local Government Board, the work be immediately undertaken, and a charge of 7s. 6d. made in respect of each removal, and in addition a mileage of 1s. 6d. beyond the boundary of the Metropolis.'
 In accordance with the terms of the foregoing resolutions application was made to the Local Government Board in due course. That Board has recently informed the Metropolitan Asylums Board that they understand the London County Council have under consideration the question of London ambulance services, and the Board have suggested that the Asylums Board should in the first instance place themselves in communication with the Council on the subject. In pursuance of this suggestion, the Asylums Board have authorised the Ambulance Committee to seek a conference with the London County Council, and I am now directed by that Committee to state that they will be glad if the Council will arrange a meeting with them as suggested, at such time and place as the Council may find convenient. For the information of the Council I enclose copy of the report which was made by the Ambulance Committee to the General Purposes Committee of the Asylums Board when the latter Committee were considering the question of the proposed extension of the Ambulance Service in the direction before mentioned." The Council made another attempt to hold that desired Conference, but they were not successful, and no Conference, as a matter of fact, was held.

By Sir William Collins.

1272. Have the Council been in communication with representatives or members of the Asylums Board upon the subject?—Yes, there were two or three semi-official conferences; Lord Doueraile, I remember, was chairman of the Committee at the time.

1273. Anyone else?—I do not remember off-hand anyone else at the moment; but it did not result in any official conference, as was suggested.

1274. Did not the late Admiral Adeane appear before the Committee at the time?—Yes, he did.

By the Chairman.

1275. However, nothing further has been done upon that point?—No.

1276. Of course, as Mr. Mann has pointed out, there are certain legal difficulties in the way. The next head given in your *précis* is, I see: 'Ambulance Provision in English and Foreign Cities.' Will you tell us what you have to say about that?—A committee of the Council, presided over by Sir William Collins, collected a good deal of information to guide them, and I put in a table which gives the information we have collected from towns in England and Wales and from certain foreign towns, giving in detail the provision, on pages 9 to 15 and 31 to 33, in English towns, and in foreign towns, on pages 16 to 20 and pages 23 to 26. Those returns are entirely at the service of the Committee (*handing in the same*).

1277. They are set out in full in this return?—Yes.

1278. That represents the information that the Council have at present on this subject?—Yes, that is all the information the Council have under that head.

By Sir William Collins.

1279. It was published on December 5th, 1902?—Yes.

By the Chairman.

1280. You now come to the action which the London County Council took in the matter?—Yes; the Council first took action in the early part of 1901 on an offer to present to the Council an electric ambulance to be used for the conveyance of persons injured in the streets. That offer was made through a member of the Council writing to Sir William Collins, the person who made the offer desiring to be unknown. It was made through the present Lord Leigh.

1281. Then that was taken into consideration by the Council?—That was taken into consideration by the Council, through the General Purposes Committee, who considered that the matter involved a very large question, and that it was inexpedient to recommend an acceptance of the offer without first considering as to the best means of securing for London the entire benefits of an ambulance service.

1282. Then it was upon that, was it not, that this report which you have handed in was prepared?—That report is the result.

1283. A sub-committee was appointed?—There were a continuous series of meetings and information collected, and that report is the result. The Committee had the benefit of the advice and the experience of a number of eminent medical men and others interested in the subject, including Sir Henry Burdett, Sir Cooper Perry, Dr. Danford Thomas, and the late Admiral Adeane, who was formerly chairman of the Ambulance Committee of the Metropolitan Asylums Board; and the views of these gentlemen and the other witnesses who assisted the Council are given on pages 27 to 30 of that report.

1284. The next important point, I think, is in connection with the Fire Brigade?—Yes. The General Purposes Committee were of opinion at first that such a service should be established in connection with the Fire Brigade.

1285. As at Liverpool?—As at Liverpool; but the Fire Brigade Committee, after giving the matter very careful consideration, came to the conclusion that such a service would be prejudicial to the efficiency of the Fire Brigade; that, in particular, the sending of ambulance messages might interfere with the sending of fire messages, and would cause confusion between the two classes of calls, and that probably there would be an increase in the number of false alarms. They considered that the work of the Fire Brigade was of the first importance and should not be interfered with by a service which was independent of it.

1286. At that time, I suppose, they had not the Liverpool experience before them to the same extent that they have now?—I think it was their own opinion based upon the reports of their officers. Captain Wells was then chief officer of the Fire Brigade. It was not based on the experience of any other authority.

1287. In Liverpool they have a system of calls, we were told the other day, comprising in the one instrument signalling apparatus for both fire and accidents?—Yes; they have two handles.

1288. It seems to have worked there, according to Captain Nott-Bower's evidence, without confusion?—Yes.

1289. It would of course have to be on a very much larger scale in London?—Yes.

1290. That makes a great difference?—Yes.

1291. But that was the principal objection, was it?—That was the principal objection of the Fire Brigade Committee. And then, after considering this subject, the General Purposes Committee came to the conclusion that a separate and comprehensive scheme was necessary to meet the circumstances.

1292. There is another important point about that: as to the attitude of the Post Office?—Yes; the Post Office laid emphasis on the absolute necessity for a new system of alarms and telephones if an ambulance service was added. The telephone system in London is undoubtedly more complicated than at a place like Liverpool, and therefore one has to bear that in mind.

1293. The Post Office view is that if you have an Ambulance service under the signal system, so to speak, it must be by a separate installation?—Yes.

By Sir William Collins.

1294. At what date did they express that opinion?—On the 1st October, 1904. Their words are: "It would not be practicable—without detriment to the fire alarm service—to use the existing fire alarm posts for ambulance purposes." The Post Office points out that the box in question "would transmit to the fire station a signal of an intermittent character, distinct from an ordinary fire-alarm call, but any failure of the pendulum in the box to vibrate would result in a fire call being transmitted," and that "while the bell was being intermittently rung at the fire station during the ambulance call, confusion might result if a fire call happened to be given at that time on another circuit, terminating on the same indicator board." Their objection is entirely technical.

Mr. G. L. Gomme.

By the Chairman.

1295. You do not happen to know whether those objections had been met at Liverpool?—No.

1296. Do you offer any observation as to the expense of duplicating the system. I see you say in your *précis*: "On the other hand, the adoption of a new alarm and telephone system would mean increased expense"?—Yes, of course it would increase the expense considerably over the estimate put in.

1297. You have no figures on that point?—No, we have no figures.

1298. That is a general statement?—Yes.

1299. Then, on the whole, the General Purposes Committee came to the conclusion that a separate scheme was necessary?—Yes, that is so, and they presented a report on those lines to the Council in 1905, setting out the details of a scheme with a view to an application being made to Parliament. I put in a copy of that report, presented to the Council on the 20th July, 1905. That Report recommended a comprehensive scheme. That was the first Report. The estimated cost of the staff was £4,400, the capital cost £13,000, and the total annual cost, including the cost of staff, at £4,400, was £9,600. The Committee recommended "that the scheme for the establishment of an ambulance service for London to deal with street accidents within a three-mile radius of Charing Cross, and providing for (1) the erection and maintenance of a principal ambulance station and seven district stations, (2) motor ambulances worked by electricity, and (3) a method of giving calls by means of street call posts fitted with telephones, be approved." That recommendation was not accepted by the Council in that form, and an amendment was moved by Sir William Collins, and seconded by Mr. Radford to omit all the words after the word "scheme" in line 1, and to substitute the following words: "for an ambulance service for London set out in the report of the General Purposes Committee be generally approved, and that it be referred to the General Purposes Committee to report further upon the questions raised by the Finance Committee." The Finance Committee at that time made, in accordance with the Standing Orders of the Council, a report entirely on the financial side of the question, and, after setting out in detail an analysis of the finance provisions, the Committee wound up in these words: "We would urge the Council to give serious consideration to the question whether at the present time it is desirable to embark on further expenditure such as would be entailed in the establishment of this proposed new service. . . . We think that on financial grounds the Council would do well to postpone the inauguration of any new service involving large charge on the rates, at any rate, until the estimated recongnents from the Holborn to Strand improvement are substantially realised, and until the financial position with regard to the steamboat service has been ascertained. In recommending the Council to take this course, we do so purely on financial grounds, and without regard to the need for the establishment of such a service or the merits of the particular scheme submitted."

1300. And are there no observations upon the estimate for this particular scheme in the report?—They set out in detail and give an analysis of the estimate, but they do not quarrel with the estimate *per se*. It is only a question of the particular date at which this expenditure was to be incurred. The capital cost would have been the cost of adapting stations, £6,600; for ambulances and charging apparatus, £6,400, making a total of £13,000. The annual cost would have been the rent of stations £1,500; repairs, rates and taxes, coal and lighting £650; repairs and maintenance of ambulances, charging, &c., £1,600; staff, £4,400; call-system, £1,000; and contingencies, £450, making a total of £9,600. Then the detail of the staff was for seven district stations, £2,400; for the principal station, £1,200; for five additional drivers to take the place of others at times of sickness or holidays, £500; and the whole under the supervision of a part-time medical officer, who would teach First Aid at a salary of say, £300, making a total of £4,400.

1301. All these estimates of this scheme, as I understand, have reference solely to making provision of ambulances for the purpose of street accidents or illness in the street?—Yes.

1302. And not at all for any other form of illness?—No, entirely for street accidents.

1303. And illness in the street?—Yes. The Finance Committee, in their report, make one other point which I

think perhaps the Committee would like to know, and that is on the question of the suggested capital expenditure of £13,000. They say: "This expenditure is described in the report as the capital cost. In our opinion, however, the cost of adapting premises held on a short lease of three years, or so, could not be charged to capital account, but would have to be met out of the rates of the year in which the expenditure was incurred. The repayment of the cost of the motor ambulances too, if charged to capital account, could only be spread over a short period, such as seven years. It does not appear that any provision is made in the figures of annual cost for interest and repayment of debt, but in the case of the motor ambulances we are informed that the estimate of annual cost includes provision for writing off annually 10 per cent. of the cost in addition to repairs, etc. It appears that the £13,000 stated as the estimated capital cost means rather the initial cost, and must not be regarded as capital cost in the sense in which the words are usually employed. The report gives rather higher figures for the adaptation of premises, in the event of their being taken on 21 years' leases, in which case there would be some justification for spreading the cost over a period of years." Then they draw attention to another point in the General Purposes Committee's Report, suggesting that the Council might erect special buildings on the Council's surplus lands; and then they say: "On the basis of the scheme being an experimental one, for three years only, it might be held that the whole of the £13,000 for the initial outlay should be provided out of rate account in the first year. In any case, for the reasons stated above, £6,600 for the adaptation of premises would have to be provided, and if the £6,400 for equipment were charged to capital account for a term of seven years the first year's charge for interest and repayment would amount to about £1,120." So that the opinion of the Finance Committee on the proposed expenditure of £13,000 on Capital was, that it should be paid out of the rate. Then they point out: "No special provision appears to be made for the upkeep of the outfit of bandages, restoratives, &c., which, presumably, would have to be kept with each ambulance, and for uniforms, stationery and office expenses, but all these would, perhaps, be covered by the contingencies' provision."

1304. This is all still, is it not, on the original scheme?—Yes, it is all on the original scheme; the Finance Committee's criticisms are on the financial provisions of the original scheme. Then another point that they raise is: "We cannot help thinking that the Councils of the metropolitan boroughs, whose districts are outside the area of the proposed three-mile radius from Charing Cross, will not be willing, for long, to contribute towards the cost of the service in respect of that restricted area, but will demand an extension of the service over the whole of the county, and this may involve a very large expenditure. There are indications, too, in the report of the General Purposes Committee that the cost of the scheme which they submit, limited as it is in area, may turn out to be considerably greater than the minimum figures which they submit." I think those are the principal financial points to which the Financial Committee drew the attention of the Council.

1305. What was the next step after that?—In deference to the views of the Finance Committee, the amendment which I have already read to the Committee was moved by Sir William Collins and accepted by the Council: "That it be referred to the General Purposes Committee to report further upon the questions raised by the Finance Committee."

By Sir William Collins.

1306. Approving generally of the scheme?—Yes, approving the principle of the scheme—"be generally approved" are the words used in the motion. Then the General Purposes Committee took the matter into consideration again from this point of view, and decided to modify the scheme before presenting it to Parliament, making it of a limited and experimental character; and I put in the report of the General Purposes Committee presented to the Council on the 19th December, 1905, with this recommendation: "That an experimental scheme for the establishment of an ambulance service to deal with street accidents, and providing for (1) two ambulance stations; (2) motor ambulances and wheeled litters, and (3) a method of giving calls by means of street call-posts fitted with telephones, be approved." That motion was carried.

Mr. G. L. Gomme.

1307. Was there a further report of the Finance Committee at that time saying how far their objections had been met?—There was concurrence on the part of the Finance Committee in this report of the General Purposes Committee. They say: "We pointed out that our criticism was based purely on financial grounds, and without regard to the need for the establishment of such a service or the merits of the particular scheme submitted. The Council approved generally the scheme for an ambulance service for London, but referred it to the General Purposes Committee to report further upon the questions raised by the Finance Committee. The General Purposes Committee now put forward an amended and much less costly scheme which, to a considerable extent, meets the objections stated above. The expenditure involved in the initial outlay on the provision and equipment of two stations and the maintenance of those stations for the first year is estimated at £5,200, including £2,200 for the initial outlay; but it is stated that this must not be regarded as other than approximate. There can, however, be little doubt that, should the scheme be adopted and found successful, its extension must be anticipated." That report was received by the Council.

By the Chairman.

1308. Then these reports were adopted by the Council?—Yes, that scheme was adopted by the Council.

1309. And a Bill was framed to give the necessary powers?—A Bill was framed on those lines. The scheme provided for the establishment of two ambulance stations, one on the south side of the river, near St. Thomas's Hospital, on land already belonging to the Council, the other on the north side of the river, near Charing Cross, on premises which would be rented, at each of which a motor ambulance would be stationed.

1310. The area to be served was the three-mile circle still, was it?—Yes. Those ambulances would be called by means of telephone call-posts in the streets, situated about half-a-mile from each other, covering an area representing about $5\frac{1}{4}$ square miles in the centre of London, north and south of the Thames. There are certain details of equipment and men; the men were to be non-resident, and there would be two shifts of two men to accompany each ambulance, and two shifts of one man in charge of each station. This would represent six men at each station, or twelve for the two; and, in addition, two or three men would be required for times of holiday and sickness. The Committee's estimate of expense was an approximate one, viz., £5,200, made up as follows: Ambulances and wheeled litters, £1,200; provision of Lambeth Station, £575; architectural and other similar expenses, £75; drainage works (if required), £150; cost of adapting or constructing premises for Charing Cross Station (in addition to amount allowed for rent, i.e., £150), £222, making an initial outlay of £2,222; rent of Charing Cross Station, £150; Staff (wages, uniforms, etc., of 15 men), £2,080; maintenance, etc., of ambulances, £320; rent of call-posts, £228; repairs, rates, taxes, etc., £200, making a total of £5,200.

1311. That estimate was adopted and the Bill was proceeded with?—Clauses were put into the General Powers Bill of the Council on this scheme and considered by Parliament last Session. It passed the House of Commons Committee and was then rejected by the House of Lords Committee. I think the Committee have seen the printed proceedings in the two Houses?

1312. Yes?—There is one additional point I ought to bring before the Committee. The Secretary of State for the Home Department presented a report to the Parliamentary Committee. Perhaps the Committee have it?

1313. Yes?—At the top of page 2 the Home Secretary points out that "ambulance services on a considerable scale are already in existence," and "it is, he thinks, a question whether any additional facilities required would not be more efficiently and economically provided by a development of the existing services, for the reasons set out below." That is one point. "But if the Committee decide to grant powers to the Council in the matter, he would strongly recommend that they should insert provisions which will ensure co-ordination between the different services, and prevent overlapping and needless expenditure of public money." That was another important point. Then, I think, the next important point is towards the end of the same page: "The Secretary of State may point out in this connection, that the police, whose duties keep them constantly in the streets, are obviously in the best position for dealing with such cases, as they are on the spot and can attend to them without delay. The Commissioner of Police informs the Secre-

tary of State that the police service can be extended without much difficulty or expense by the provision of additional ambulances, and possibly additional vehicles, and that he would welcome the co-operation of the London County Council in effecting these or any other improvements in the service."

By Sir William Collins.

1314. Had any communication to that effect been previously made on behalf of the police to the County Council?—No, that was the first we heard of it.

1315. Had the Council at the commencement of their inquiries put themselves in communication with the police?—Yes, we had been more or less in communication with the police throughout.

1316. They had received evidence, I think, from them?—They had received evidence from them.

By the Chairman.

1317. Then there is an important point, I notice, on page 2:—"The London County Council proposals are limited to the first of these purposes": that is, street accidents?—Yes.

1318. That rather indicates that the view of the Secretary of State is that it is desirable to treat the two questions together, to treat the provision of an ambulance service as for all purposes?—Yes, "It would in any case, the Secretary of State thinks, be undesirable to have two public services covering almost exactly the same ground, and acting independently of each other."

1319. That was after speaking about the Metropolitan Asylums Board?—Yes, that is so. He points out in his final paragraph, "that the direction in which additional ambulance facilities are most urgently required at the present time is not in connection with accidents in the streets, but for the conveyance of persons in poor circumstances from their homes when too ill to travel by public conveyance"; and he goes on to point out: "The police possess three horsed ambulances, which, when not otherwise required, are available for this purpose, and are in constant use. The only charge made, viz., the hire of the horses (which may be reduced or remitted in unecessitous cases) is considerably less than the charge made for the use of a hospital ambulance. The Secretary of State understands that the Metropolitan Asylums Board have made suggestions that their system might be extended so as to enable them to deal with cases generally of the removal of the poor from their homes."

1320. The whole tendency of that report is rather to suggest that the matter might be dealt with as a whole?—Yes, the matter might be dealt with as a whole, and, if possible, by co-ordinating all the various systems in force.

1321. I understand you are here mainly to give us an account of the history of the matter, rather than to express any opinion, either in your representative or your individual capacity?—Yes, I am here simply as a conduit pipe, to hand to the Committee all the information at the service of the Committee.

By Sir William Collins.

1322. There are a great many different agencies at present more or less concerned with ambulance provision in London, are there not?—Yes, the St. John Ambulance Association, the Bischoffsheim, the Volunteer Medical Staff Corps, the Police and the City Corporation.

1323. And we have been informed that some Boards of Guardians have ambulances which are sometimes used even for cases of accident?—Yes.

1324. And some of the hospitals possess ambulances, do they not?—Yes.

1325. But there is no co-ordination between these various services?—No, there is no co-ordinating of forces of any kind. The Council also has now, as the Education Authority, a few ambulances for their cripple children, taking them to and from schools and their homes.

1326. Am I right in thinking that one of the first actions of the County Council, when they proceeded to investigate the question, was to communicate with the then Commissioner of Police?—Yes, and the Metropolitan Asylums Board.

1327. Have they also communicated with the Voluntary Associations?—They communicated with all those.

Mr. G. L. Gomme.

1328. And generally with a view to friendly co-operation?—Certainly, that was the entire theory of the action of the Committee throughout.

1329. I understand that the Council have received offers of gifts of ambulances from various people?—Yes, in fact the action of the Council began on an offer that was made through a Member of the Council from an American gentleman.

1330. Since then has Mr. Bischoffsheim made further offers?—Yes, I understand that Mr. Bischoffsheim has been exceedingly generous in this way.

1331. Has there been pressure put upon the Council by various organisations and voluntary associations with a view to taking action upon this matter?—Yes, by a great number of different bodies in London, first of all the Borough Councils.

1332. Were they spontaneous suggestions?—Quite spontaneous; the Council had nothing to do with them.

1333. Did they take the form of suggesting that the Council should take up the work?—Yes, in practically every case. The first of those Councils to raise the question was the Fulham Borough Council. In a letter from the Town Clerk, dated 30th January, 1903, the London County Council was urged, in view of the numerous accidents which occurred in London, to take into serious consideration the question of establishing an efficient service of horsed ambulances throughout the Metropolis, and it was suggested that the Fire Brigade might be utilised for the purpose. In February and March, 1903, the following Borough Councils expressed concurrence with the views expressed by the Fulham Borough Council:—Battersea, Greenwich, Bethnal Green, Poplar, Wandsworth, Finsbury, Woolwich and Lambeth.

With reference to the concurrence of the Battersea Borough Council, a further letter, dated 9th April, 1903, was received from the Town Clerk of Battersea, forwarding copies of letters addressed by him to the Local Government Board and the Fulham Borough Council to the effect that, in the opinion of the Battersea Borough Council, it would be preferable for the Metropolitan Asylums Board to undertake the upkeep of an ambulance system for London. As a result of enquiries addressed to the Metropolitan Asylums Board, it appeared that the Board had written to the Borough Councils, not on the question of the provision by the Metropolitan Asylums Board of an ambulance service for dealing with accidents, but on the question of utilising the ambulance service of the Board for the purpose of the removal of other than infectious cases, so that the ambulances might be available, on payment of a reasonable fee, for the removal of surgical and other cases to hospitals or elsewhere. As I have already stated, the Metropolitan Asylums Board was not prepared to extend the operation of its ambulance service to the removal of cases of street accident. It is, therefore, possible that the later views of the Battersea Borough Council were based upon a misunderstanding of the attitude of the Metropolitan Asylums Board.

Letters were subsequently received from various Borough Councils, early in the year 1904, again urging the Council to take action with regard to the formation of an ambulance service for London. It should, however, be added that in June, 1904, a petition was received from the Wandsworth Borough Council suggesting that the Council should insert a clause in its next General Powers Bill empowering Metropolitan Borough Councils to provide ambulances. It may be observed that this suggestion differs from the view expressed by the same Borough Council in the year 1903.

I ought also to mention that at a meeting of the Metropolitan Street Ambulance Association on 2nd May, 1904, the following resolutions were carried unanimously:—

1. "That this Association, having considered the present condition of ambulance provision in London for dealing with cases of accident and sudden illness in the streets and public places, is of opinion that there is urgent need of organisation, under one body, of an improved ambulance service, summonable by telephone, and provided with more rapid transport."

This resolution was proposed by Sir William Church, Bart., K.C.B., M.D., President of the Royal College of Physicians of London, and seconded by Mr. Timothy

Holmes, Consulting Surgeon to St. George's Hospital and late Chief Surgeon to the Metropolitan Police.

2. "That, having regard to the excellent ambulance services organised by Municipal Authorities elsewhere, this meeting is of opinion that the London County Council is the body by which such service should be provided and maintained."

This was proposed by Mr. John Tweedy, President of the Royal College of Surgeons of England, and seconded by Sir Alfred Cooper, Vice-President of the Royal College of Surgeons of England.

3. "That the foregoing Resolutions be communicated to the London County Council by deputation, and that the Officers of this Association be requested to arrange for the co-operation and support of other representative Associations and persons for this purpose."

Proposed by Sir Thomas Barlow, K.C.V.O., M.D., Physician to His Majesty's Household, and seconded by Mr. G. H. Makins, C.B., late Consulting Surgeon to the South African Field Force.

1334. And has the Council received deputations on the subject?—Yes, the Council has received deputations, and been pressed in various ways.

1335. Do you remember who composed the deputations that waited upon the Council?—I cannot charge my memory with regard to all, but I may say that, in accordance with the last-mentioned resolution of the Metropolitan Street Ambulance Association, a deputation representing that Association and the St. John Ambulance Association waited on the General Purposes Committee of the Council on 9th May, 1904. The deputation consisted of the following gentlemen representing the Metropolitan Street Ambulance Association:—Mr. Reginald Harrison, the President; Sir William Church, Bart., K.C.B., M.D., President of the Royal College of Physicians of London; Sir Alfred Cooper, Vice-President of the Royal College of Surgeons of England; Sir Thomas Barlow, Bart., K.C.V.O., M.D., Physician to His Majesty's Household; Sir Cooper Perry, M.D., Superintendent of Guy's Hospital; Mr. Anthony Bowlby, Surgeon to St. Bartholomew's Hospital; Surgeon-General Keogh, C.B., M.D.; Mr. Raymond Johnson, Surgeon to University College Hospital; Dr. H. D. Rolleston, Physician to St. George's Hospital; Mr. Cuthbert Wallace, Surgeon to St. Thomas's Hospital; Mr. H. Duddfield, President of the Metropolitan Branch of the Society of Medical Officers of Health; and Mr. Arthur James, M.D., D.P.H., Secretary; and the following representing the St. John Ambulance Association:—Col. Sir Richard Temple, Bart., C.I.E., Assistant Director and Deputy Chairman of the Committee; and Col. Sir Herbert Perrott, Bart., C.B., Chief Secretary. I may add that Lord Knutsford and Mr. H. L. Bischoffsheim wrote expressing sympathy with the objects of the deputation. On behalf of the deputation Sir William Church presented the foregoing resolutions, and said that the Council, and not the Metropolitan Asylums Board, was the proper body to undertake the ambulance service. Sir Richard Temple, also speaking on behalf of the deputation, stated that if the Council undertook the Ambulance Service for London the St. John Ambulance Association would assist in the training of the employees.

1336. Had there been much activity on behalf of other public bodies in London in the direction of improving the ambulance service, before the Council took the matter up?—No, I think not. The action of the City Corporation, for instance, was entirely subsequent to the action of the Council. And, for the purpose of arriving at a co-ordinating authority, nothing was done until the Council took it up. Each authority went on in their several ways, independently, without any ideas of co-ordinating a system.

1337. I do not think you have told us exactly what the powers were that the Council sought in their General Powers Bill of 1906. Perhaps you would read the clauses?—Clause 23 was: "It shall be lawful for the Council to establish and maintain, or to contribute towards the cost of, or otherwise aid in, establishing and maintaining an ambulance service for dealing with cases of accident or illness in the streets or other public places in the County."

Then Clause 24: "(1) The Council may for the purposes of this part of this Act and as and when they may think requisite for carrying such purposes into effect—

(a) Appropriate, hold, and use any lands or buildings for the time being vested in them for any

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purpose for which such lands or buildings are not required;

(b) Take on lease, purchase by agreement, or otherwise acquire any lands or buildings within the County;

(c) Erect or cause to be erected, and maintain, repair, and manage on any lands so appropriated or acquired, any buildings suitable for the said purposes;

(d) Adapt, furnish, and equip any buildings so appropriated, acquired, or erected.

Clause 24, (2): The Council may from time to time sell, lease, or let any lands or buildings acquired by or vested in them for the purposes of this part of this Act, and not required for such purposes.

Clause 24, (3): The Council may for the purposes of this part of this Act establish and maintain or contract with any Company or persons for the establishment and maintenance of telegraphic, telephonic, or other suitable means of communication between the several buildings used for the purposes of this part of this Act, and between any of such buildings and other parts of the County."

Then Clause 25: "(1) For the purposes of this part of this Act the Council may employ and pay such officers and servants as they may think expedient for the efficient conduct of the service authorised by this part of this Act.

Clause 25, (2): The Council may from time to time provide and maintain such ambulances and other vehicles to be drawn by hand or by animal or electrical or other mechanical power as they may think requisite for the accommodation and conveyance of persons meeting with accidents or seized with illness in the streets or public places in the County."

1338. Those powers passed through the House of Commons through all its stages?—Yes; that is so.

1339. Was there any opposition offered before the Committee on the Bill in the House of Commons?—There was opposition by the City of London Corporation.

1340. In the House of Commons?—Yes; the petition of the City of London included the following paragraphs: "(4) By Part IV. of the Bill it is proposed to enable the County Council to establish and maintain an ambulance service for dealing with cases of accident or illness in the streets or other public places in the County. (5) Your Petitioners have for some time past had under consideration the establishment of an efficient street ambulance service throughout the City and have practically completed arrangements for the inauguration of such service at an early date. (6) The powers sought by this part of the Bill are therefore not required as regards the City, and would, if granted, interfere with your Petitioner's jurisdiction and throw unnecessary expense without conferring any benefits upon those whom your Petitioners represent."

1341. Was the Home Office report also before the House of Commons?—Yes, the Home Office Report is dated the 26th of March.

1342. It was also before the Committee of the House of Commons?—Yes.

1343. I see it was stated in the debate in the House of Lords, that it passed the House of Commons Committee unanimously?—Yes. I think that is so. We generally understood that that was so.

1343A. Then when the Bill came before the Committee of the House of Lords—Lord Camperdown's Committee, I think it was—?—Yes.

1344. Were several medical witnesses and others tendered on behalf of the Council?—Yes, that is so. The witnesses were yourself, as Chairman of the Committee, and Sir Shirley Murphy, the Medical Officer of Health.

1345. I have before me the Minutes of that Committee, and I see that Mr. Talbot (who, I think, was one of the counsel for the County Council) states, on page 24: "My Lord, we have here some of the principal medical men at some of the large hospitals, and of course, in ordinary circumstances we should wish to call them; but I understand that the Committee do not wish for any more evidence as to the general necessity of an ambulance service"—Yes.

1346. What did the Chairman reply?—"I am sure we are all of opinion that it is very desirable that there should be a good ambulance service. Of course, as we know, you cannot have everything you desire, but it is certainly quite desirable. I do not think there can be any question as to the desirability." I think his Lordship repeated that in the House of Lords.

1347. After that, some of the medical witnesses who were ready to give evidence, were not put in; is that so?—That is so; it was not considered necessary after that expression of opinion as to the desirability of a service.

1348. You referred to what took place in the House of Lords after Lord Camperdown's Committee had decided to strike these powers out of the Bill. I see that in "Hansard," page 1252, Lord Camperdown, replying to Lord Monkswell, who raised the question, said: "The Noble Lord omitted to state one thing, which is very relevant indeed, and that is that the Home Office is opposed to the scheme." Have you any knowledge of that except in regard to the report you quoted?—The only opposition that we had was in the shape of the report which I have quoted.

1349. Lord Camperdown went on to say: "Therefore the Home Office is opposed to the scheme, and I understand that the Home Office is on the point of communicating with the County Council, and suggesting a conference with them on this matter"—Yes.

1350. Beyond the invitation to this Committee, have you received any further communication?—No.

1351. Then I see the Noble Lord went on to raise the question of expense, which appears to have operated with the Committee. I understand that the General Purposes Committee, out of deference to the criticism of the Finance Committee of the Council, submitted a second and less costly scheme than that which they had originally laid before the Council?—Yes, they submitted what was called "an experimental scheme," and was only an experimental scheme.

1352. The first scheme was estimated to cost £13,000 capital and £9,600 maintenance; the second scheme, I understand, was estimated to cost for the first year or two about £5,000 a year?—Yes, £5,200.

1353. For maintenance?—Yes.

1354. In view of the experimental character of the work, do you think it is possible to give an ultimate estimate of capital or annual expenditure?—No, I think that was always a difficulty with our witnesses before the two Houses, to give anything like an accurate estimate of the ultimate expense.

1355. I suppose when the Council, or rather its predecessor, took up the work of Fire Brigade provision for London, it was very difficult to make an ultimate estimate of the capital or annual expenditure?—But they did try to make such an ultimate estimate, because they put a limit of a half-penny rate upon such expenditure; and even under the Metropolitan Board of Works that half-penny rate was exceeded, by reason of the capital expenditure being placed outside it. And then, when the Council came into being, the limit was removed by the statutory operations of the Act of 1888, since which time the increase of expenditure has gone up very considerably.

1356. So that in that case, at any rate, experience has not justified anticipation?—That is so.

1357. I gathered from Clause 23 of the General Powers Bill, which you read, that if that had become law it would have enabled the Council either to establish and maintain a service itself, or to contribute towards the cost of other agencies which were supplying ambulance accommodation?—Yes, to contribute; that was a very strong point.

By the Chairman.

1358. To "contribute towards the cost of or otherwise aid"—Yes.

By Sir William Collins.

1359. So that if that power had become law, it would have been open to the Council, if they had so desired, to subsidise voluntary associations or to make a contribution to the City, if it had an ambulance service?—Yes.

1360. To co-operate not only by organisation, but also by financial aid to any organisation that was doing useful and satisfactory ambulance work?—Yes, I think the intention of the clause was to bring about, if possible, a co-ordinating system. The power to contribute would have assisted in that direction.

1361. You spoke of opposition by the City. Am I right in thinking that that opposition was directed to a limited point?—Yes; that was simply to exclude the City from the operation of the Act, so as to prevent the City from being rated for purposes of the ambulances;

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this is a very usual kind of opposition that we get from the City in almost all matters; it is not confined to the ambulance service.

1362. So far from opposition to establishing an ambulance service, they claimed that they were establishing, and, in fact, they have since established, one of their own?—Yes.

1363. Have they begun in an experimental way?—No, they have begun in a thorough way, I should judge from their operations.

1364. I do not think that is correct. We have been told by the City representative that they began with one ambulance and are contemplating a possible extension?—Then I am probably not correct. I was rather judging by their scheme than by what was actually in practice. Among other things that they do, and that we had not contemplated, is the use of private buildings for ambulance offices, and so on. I remember that being part of their scheme, which struck me as being rather useful.

1365. Have the County Council suspended action in regard to this question since the appointment of this Committee?—They have taken no action. I do not know that they have been moved to take action; but they have taken no action in the matter of reviving the proposition to Parliament.

1366. Or of rescinding their previous resolutions?—No, they have not rescinded their previous resolutions.

1367. I do not know whether the limits under which you are giving evidence would preclude you from ex-

pressing any opinion as to the nature of the authority for ambulance work in London, as to what authority should be the ambulance authority for London?—I have my own opinion, but I think, perhaps, I would rather not express it under the limitations laid upon me.

By the Earl of Stamford.

1368. In the former and larger scheme, was there any account taken of existing ambulances in London; or did the scheme contemplate an entirely new service?—The scheme was for an entirely new service; but, of course, in framing it the Council had in mind what was already in existence.

1369. It would have been possible to utilise existing resources?—Yes, it was framed entirely in that view.

1370. Do you say the same of the second—the modified and limited scheme?—Yes; the existing systems were taken into consideration.

1371. By Clause 23 of the Bill, I see it was intended to “contribute towards the cost of or otherwise aid in establishing and maintaining an ambulance service,” and so on. The remaining Clauses, 24 and 25, I suppose, refer directly only to the establishment by the County Council of such a system?—Yes, those clauses were to give the Council the necessary powers for establishing a system, but it did not follow that the Council would have carried those powers out if by contributing they could have come to the same or better results.

Mr. THOMAS BRYANT, F.R.C.S., called in and examined.

By the Chairman.

1372. You are a Fellow of the Royal College of Surgeons of England, and have been President, I believe, of the Hospitals Association?—Yes; and I was Surgeon to Guy’s Hospital for over 30 years.

1373. I think, first of all, you wish to say something about the want of better ambulance accommodation?—I think, if you will allow me, I will begin with two leading principles which guide me in all this work. One has reference to the police, and the other has reference to the ambulances. With regard to the police, I consider the responsibility of action seems naturally to fall to the police, and there is no question about other bodies being mixed up with it, I mean the Fire Brigade, and such as there is abroad or in America. I do not think that would answer in our country at all. As the police have, in a great measure, the controlling of the streets, they must, I think, be the people who have to act in all cases of injury.

1374. In the first instance, you mean?—Yes, in the first instance as First Aid.

1375. Because generally they are near the spot?—Yes, and they know how to manage things. The second point is in connection with ambulances and the means of taking injured people to their homes or hospitals, for this work turns entirely upon the different areas of London; what will do for one area will certainly not do for another; the wants of each area will have to be considered separately. There is, of course, what is called the accident area, from which three-quarters of the accidents are brought, which is naturally fully under the police, and must be so; and what is wanted in that area is very different from what is wanted in those areas beyond the six-mile radius or even the four-mile radius. You cannot generalise so much as to bring the whole thing under one head; what will do for one district will not do for another. That has to be borne in mind in all considerations.

1376. We have had considerations of that sort pressed upon us a good deal?—That is good. I think that is so clear that it must enter into everything, and whatever I say will be with those two principles fully stamped upon my mind.

1377. Will you follow out your first principle with regard to the police?—In following that up, under these circumstances it is absolutely necessary that every policeman, before he is called upon to patrol the streets, should be fully instructed in First Aid duties, and should have written instructions given to him as a guide to the use of the different means of transport open to him.

1378. That means that you contemplate different kinds of transport?—Yes.

1379. You contemplate in some cases even a cab, in some cases a hand ambulance, and in others a vehicle of one sort or another?—Yes.

1380. And possibly different kinds of ambulances?—Yes.

1381. And you want a policeman sufficiently trained to be able to say: “I cannot allow this man to go in a cab; he must wait for the ambulance”?—Yes, and to use his discretion in using any means that are open to him. Next, I would say that every policeman should have at hand a first dressing, which might be supplied by the St. John Ambulance Association, the same as a soldier has in his pocket, so that if there is a wound he has means to dress it. That is the first thing, in order that he might cover a bleeding wound; that is the object, only to cover it. And he should be taught, in a general way, when a cab may be used or a wheeled hand ambulance or a more perfect horse or motor ambulance. He should also be supplied with certain directions as a guide. For example, he should be directed that in transporting cases of injury to the head, chest, abdomen, or pelvis, indeed any injury to one of the four great cavities of the body, a horizontal position should be maintained, with perhaps a cushion just to raise the head and shoulders a little, and the head turned to one side. Perhaps you might not know the reason for that last; so many people are killed in moving by that not being done. They are faint and they are sick. If they are lying on their backs they inhale the vomit, which kills a man very soon or gives him pneumonia; but if the head rests just on one side or the other the vomit flows out laterally, and the man is saved. The same horizontal position should be observed in all cases of fracture of the lower limbs, however simple the fracture may be. And in all cases of sudden illness and when the injured person is faint the same rule must be observed. In injuries to the upper extremities a cab may be used.

1382. With a broken arm?—Yes, with a broken arm a cab can be used, with the arm just held nicely; and in most cases of superficial wounds of any part of the body without any general symptoms.

1383. You think that would be sufficiently intelligible to an ordinary policeman, so that he could act upon it?—I do not doubt it at all. When I was lecturing at Guy’s I used to give a lecture every year upon First Aid as instruction to the young men, and to teach those with whom they came in contact. I know that there is a book containing rules to the police, but I have never seen it.

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Nothing is said about it in any of the papers that I have read. I have talked to many policemen upon these matters, and the intelligent ones always say: "Oh yes, there is no difficulty in our dealing with it, or understanding what it means."

1384. In the Police Orders, which are the instructions to the police, there is the following instruction:—"In all cases of accident or illness in the streets, the police are to render all the assistance in their power by sending for medical aid (in the interval loosening the necktie and collar, raising the head, by which breathing is made easier), and, where necessary"—that leaves it to their discretion?—Yes.

1385. "Sending to the police station for the wheeled ambulance or stretcher to remove the sufferers to the nearest hospital, unless there be some special reason for taking them to another hospital. Where necessary, expenses for cab hire will be allowed?"—I believe they very rarely call in a doctor; it is very exceptional.

1386. There are a number of other detailed instructions?—However, there could be no difficulty in drawing up, on a piece of note paper, the points of importance which a man could look at at once, and know what he ought to do.

1387. Your evidence, up to this point, amounts to this: That it would be easy to give the police, who presumably are of average intelligence, instructions which would enable them to decide the manner in which a case should be taken to hospital?—Yes; I do not think there should be any difficulty in doing this. The next thing in regard to ambulances is, what medical aid is wanted. It has been stated that a doctor, or very first-class student, should accompany the ambulance.

1388. That the hospital should be brought to the patient, as it were?—That is the view. It is, however, quite impracticable: in simple cases the plan might answer, but not in any difficult case, a head case say, or a case involving the chest, abdomen, or pelvis; such a case wants to be examined most carefully indeed; and the patient ought only to be examined and diagnosed by the hand that is to treat him. It ought to be left really to the hospital authorities, and the less that is done beforehand the better. What fixed this view so markedly on my mind was the result of the Russo-Japanese War. The Japanese at the beginning of the War gave a positive order that no case beyond First Aid (that is to say, the wound is shut up and covered, and the bleeding stopped) was to be dealt with at all in the field hospitals—no operations and no manipulations—but they were all to be just done up as nicely as possible and sent to the base hospital. And the success of the cases was perfectly astounding. We could not believe it. Now that we know what the Japanese did it has certainly come home to us. That is the same principle precisely; and perhaps, in our case, it is more necessary, because you could not have a good aid sent with the ambulance. A doctor would not go. You could not take a doctor from the hospital, they have no one to go, they have all got their own duties. The students would not come, and they would be no good if they did, because, if you remember, I first stated that the less manipulation of the wound the better. The duty of the police is simply to get the case to hospital as safely as they can—rapidly, if the case will allow it—but safely under all circumstances, and then let the diagnosis be left to the hospital. As to stripping patients in the ambulance and so on, your own common sense tells you that that cannot be done efficiently—with women, particularly.

1389. Great stress has been laid upon that by some witnesses?—I know, but the gentlemen who give evidence about that are the theorists, really. In theory, it is a very nice thing to bring the hospital, that is to say, to bring a responsible surgeon to the patient. It should, however, be left to the surgeon at the hospital to diagnose and manipulate the case. I know, myself, speaking not only from theory but from practice, how often at the hospital I used to find cases brought in and to say, "What a pity such and such a thing has been done." If there is bleeding, you can put on a pad, and apply pressure or a bandage,—the police can do that; and that is why I say that every policeman should have a first aid packet in his pocket, or in the ambulance, when it comes, but it would be better in the policeman's pocket.

1390. The police ambulances are all fully equipped with different articles?—Yes, the ambulance fully equipped is right enough; but the police are not to diagnose—that is the point. Men say that the ambulance is wanted to enable the attendant to strip the patient and examine

him; but they are going too far. We do not want anything of that kind; it would do an infinity of harm.

1391. The tin box of stores, containing bandages, splints and so on, is the important thing?—Yes, all that should come with the ambulance.

1392. That at present comes with the ambulance?—Yes.

1393. But you think the policeman should have something in his pocket?—You must remember that ten minutes or a quarter of an hour is, as a rule, wasted in waiting for the ambulance, with bleeding, perhaps, going on, and dirt about; the policeman could easily cover up the wound, and in doing so he would get some guide as to the character of the injury, where it is—in what part of the body, and so on.

1394. Would it be practicable, do you think, for a policeman actually to carry these materials about with him?—There is a little packet containing a dressing which he might put in his pocket, all hermetically sealed up, not to be opened until it is wanted. There you have an antiseptic dressing to put on the wound. If a man gets a compound fracture of the leg—a small wound—instead of letting the leg wobble about, they might put this dressing nicely on, and so deal with it.

1395. And get him to hospital as quickly as possible?—That is it—not to do any more.

1396. As safely as possible, I should say?—Yes; I do not like to say as quickly as possible, because hurrying him over the stones will not do him much good, whether in a motor or an ordinary ambulance.

1397. He had better wait?—Yes a minute or two more would get him there safely and quietly. Then (this has still reference to a doctor being sent with the ambulance) it is only in exceptional cases that a medical-aid attendant is wanted. In a case of very severe injury he may be wanted, and under such circumstances a local surgeon may be called in and probably would be called in. In bad cases an ambulance attached to a hospital or near a hospital should be sent for, and, when sent for, the word "urgent" should be telephoned as a distinct word, which should be interpreted as asking for medical help—I mean, in a case of very severe injury. That is a mere suggestion, because the hospital ought to be in telephonic communication with the police everywhere. Then the First Aid assistant need only find out the seat of injury and then, by care and gentleness in manipulating, guard against making things worse. That is all he has to do—to see that things are not made worse. The diagnosis of every case is to be left to the hospital or physician or family attendant, according to where the patient is taken. In the accident area of about 50 square miles in London, which lies in a circle around Charing Cross of four miles, and in which three-quarters of the accidents and sudden illnesses occur (that is an important thing to remember—that three-quarters occur in an area of 50 square miles), the wheeled litters which the police now use are fairly efficient—they are the best we have got; for in 1906, out of the 8,000 cases published, which have been tabulated, 1,759 took place within a quarter-of-a-mile of a hospital or infirmary, and 4,554 occurred within a quarter-of-a-mile, or less, from an ambulance, and not far from a hospital; that is in the accident area. The police, I know, think so highly of the present system that they say they do not want any change; perhaps they might want a few more ambulances in that district, but beyond that they do not want any change, and there is no necessity to have telephones anywhere linking all the ambulance stations and police together; they are so near in this district, so closely placed, that there is never any difficulty in finding a policeman and getting the thing carried out within proper time. That is what they assert. Of course in the long distances it is different altogether.

1398. Do you agree with that view yourself?—I am coming to that afterwards; I am only considering now the use of the ambulances. Out of the 8,000 cases treated, 41 per cent. of the whole were transported on wheeled ambulances, that is, two-fifths of them. One-fifth walked to hospital and 38 per cent. were transported by cabs or other vehicles. It is interesting to contrast that with what the hospitals say. I think you have had given to you the statement that in a period of four weeks, out of 2,000 cases of accident brought to eight of the large London hospitals, including St. Bartholomew's, Guy's, St. Thomas's and so on, half of the whole number—1,006—walked to the hospitals, 302 were brought by ambulances, 50 were brought by other means and 640 were brought in cabs. I do not say that all

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these cases were under the police, but I should say that those brought in ambulances had been brought by the police, because ambulances would include wheeled litters and others; but others were probably cases occurring in the neighbourhood who could walk.

By Sir William Collins.

1399. Can you say, of your own knowledge, that those cases which were brought in cabs and vans, which are included in that police return, were not brought by the police?—No, I cannot. I say I accept at once that the ambulance cases were probably brought by the police, but I could not say how those other cases were brought.

By the Chairman.

I do not think that anybody has suggested that the police do not make use of passing cabs; but in certain cases they are told that they ought not to do it—for instance, where the injury is to the lower limbs.

By Sir William Collins.

1400. Equally is it not likely that some of those cases which arrived in ambulances, arrived in ambulances other than those of the police?—Yes, some of them might.

By the Chairman.

1401. It is more probable if they arrived in ambulances that it was through the instrumentality of the police, either in their own ambulances or in the ambulances, in some cases, of the Metropolitan Asylums Board?—Exactly. In the area outside the accident area, it seems that the police and ambulance stations are so efficient and abundant that telephonic communications are not thought to be necessary, that is the police opinion—and they have not got them, although it seems clear to me that in all parts of London outside the accident area, in which the police are available but more scattered, a considerable increase of ambulance stations is called for, and likewise the use of telephone boxes and telephonic communications between the ambulance stations the police and the hospitals. I think that is quite clear. Of course in the police area what they are doing now simply wants a little helping, but in the outside stations it wants a great deal of helping. But you must remember that there are not more than 10 cases a day occurring in the outside area. I should include also the infirmaries; I do not want to forget the infirmaries at all. In the outer area, or rather in the area outside the accident area, which is roughly 650 square miles, with a radius of 15 miles, a very different arrangement of ambulance sites and telephone call boxes has to be made, for from this large area less than 10 casualties a day have to be provided for. For these areas horse or motor ambulances may be quite necessary to convey an injured person to home or hospital or infirmary; in fact, every police district requires, as I stated at the beginning, its special scheme of working, to enable it to efficiently carry out the transport of the wounded to home, hospital, or infirmary.

1402. What is the next point you deal with?—I now come to teaching, and with respect to teaching of First-Aid help it seems that in Scotland Yard a short course of instruction is given to every constable who wishes for it, on his first entry, and later on a more advanced course is given by the County Council, for which certificates are granted. The St. John Ambulance Association used to do that, and I cannot quite make out how they have fallen away. They seem to have given it up altogether, and simply stick to their ambulances. I find in the evidence of two Superintendents of Police, who have been examined, that in one Division, Division E, out of 582 men, 408 hold certificates for the first course—I suppose that is the early course—and 59 for the second course; so that out of 582 men, 467 hold some sort of certificate. In division X, out of 882 men, just half, 440 hold certificates, but only half of the whole force. On inquiry, I find that the instruction in First-Aid is not compulsory. It is advised strongly, but a large number do not follow it. If I am right in what I have stated this is not satisfactory, for I hold very strongly that every constable who undertakes patrol responsibility should be well educated in first-aid help, that is, before he begins his work. Indeed, I had written down a little further, but tore it up afterwards, what I thought might be made, as it were, a test examination of the men before they are fully accepted on to the Patrol Police; that is to say, that if a man could

not pass his examination in First Aid up to a sufficiently high level to carry out such instructions, which would be no trouble at all, that man has not enough gumption to be entrusted with the duties of patrol.

1403. You mean that you would make such proficiency a test for his admission to the force?—Yes. Perhaps that is asking too much, but I do not see it, because it is a good test of ability.

1404. At all events, you think that before being put on to patrol work he ought to have that amount of instruction?—Yes, I think that any man in the streets who has to deal with accidents should have as much knowledge as can be given him, and it ought to be very well given. Whether the County Council is the best body to do it or not, I do not know. That I leave to others.

[Mr. Bryant has kindly furnished the Committee with a memorandum, briefly setting out the instructions in First Aid, which, in his opinion, would be reasonable and sufficient for all policemen to have. This memorandum will be found printed in Appendix XIV.]

1405. The witness who was here just before you put in the Syllabus of the County Council Lectures. I do not know whether you would like to cast your eye over it?—Thank you. I have never seen this. *(After reference—Appendix XIII.)* They have gone here a little ahead of what I was suggesting.

1406. That is what I was expecting you would say. Does not that point to this: That you want what might be called a sort of special instruction for the police?—Yes, this syllabus is what might be given to anybody. The police do not want all this, it would frighten a half-educated man. That is the sort of thing I might give in my own course—and did give. I should not have thought of giving it to the police. It would frighten me, as a policeman. If that is their aim and object, and what they are doing now, surely what I am asking is much more simple and would be no difficulty at all. I am not asking anything from a policeman that we might not expect, and if, as I put it, he has not sufficient gumption to carry out what I suggest he is hardly fit to be a policeman.

1407. From the practical point of view, how long do you think it would take to teach a man of ordinary intelligence—such a man as you might expect a policeman to be—the amount of instruction which you think he ought to have?—I should give him three days' a week class instruction, with some lectures and examinations, an hour at a time, for two or three months.

1408. Is there any course of instruction on those lines that you are aware of in London?—I do not know what the St. John Ambulance Association does now. I know that some few years ago, when I was very interested in this subject, I used to know a great deal about the Association, and what I am suggesting is very much what they have taught. The County Council Syllabus is advanced so far as to make them really surgical assistants.

1409. It involves a certain amount of scientific knowledge, too—a knowledge of anatomy?—Yes. Really, to know the contents of the head, chest, abdomen, and pelvis is the important anatomy they want. Take this talk about muscles, they do not understand what a muscle is; they do not know that they are eating muscle every day in the meat that they eat. I do not see that it is necessary. It leads them to think they are a little too clever. When I was at work at Guy's, and an accident case was brought in by a policeman, I always had a chat with him to know how they were taught; because sometimes an accident case showed some excellent work, and it was very interesting to see what the police did do.

1410. Did the policeman generally come with the patient?—Yes, very often; and they wait to see what the result is, and then go.

1411. You had a good many years' experience of hospital work?—I was 31 years surgeon at Guy's. That is a little experience—I will not call it a great deal; and I was teaching all that time. With respect to the varieties of ambulances, the police seem to be satisfied with the hand-wheeled forms that they now possess. I know those forms, and I should be sorry to say that better could not be invented. I quite feel that the hand-wheeled forms are most convenient for the bulk of cases, trivial cases, but I do not like them. If you were to ask me in what way I do not like them I could hardly tell you. But they are not nice-looking things: they are convenient, but I think a better form might be had. I am sorry I did not go to that show that there was of ambulances a little time ago. I should like to have seen what sugges-

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tions really they made; but I think if a little effort was made to get a perfect hand-ambulance ready it could be found. Somebody or other would, in an ingenious way, work it up.

1412. Is there any particular point in which you can suggest improvement?—No; it is an ugly thing.

1413. It is repellent?—Yes; but that is nothing. I do not like covering the patient up quite so much; you must cover him a little; the body must be covered up; but there ought to be a separate piece for the head so that it could be covered, or only half covered, and the patient could get air. In London, of course, there is always a mob round about, and that is dreadful. But I should like to have the wheeled litters improved. At the same time, I feel that we could not quite get rid of them, and they are very useful and probably efficient, but great care is wanted to keep them quite clean. That ought to be every man's duty. After an ambulance is taken out it ought to be washed and antiseptised—there is no trouble about it if they are made with rubber, as they mostly are—so that no outside dirt can possibly infect any wounded person and do mischief.

1414. Necessarily there is no more trouble in cleaning a hand ambulance than in cleaning a motor or horse ambulance?—Not at all, if it is only understood that it has to be done; so that until a better one is formed we must go on utilising them. They are more rapid,—you get a patient who is not very much hurt upon one of these ambulances and he is wheeled to hospital in ten minutes or a quarter-of-an-hour in the accident area; and in time it is to be hoped that better hand ambulances will be on the market and the number of them will be greatly increased. The police ambulances at present number 346, and more are ready for distribution as sites for them can be secured. It is a curious thing that there is great difficulty in finding sites both for these little hand ambulances and for other ambulances. There ought not to be. Somehow or other that ought to be overcome; it ought to be made compulsory. At Chelsea now they are quarrelling over it, and I know Mr. Bischoffsheim has found a difficulty; but his ambulances are very useful; we include those as hand ambulances, naturally. Perhaps I like his better than those the police use. With respect to horse-drawn and motor ambulances, I hardly think the latter can yet be generally adopted, for many reasons. There is one thing which I have never noticed has been observed, and that is the rattle and vibration, which would be dreadfully against their general use, and particularly at present, as we seem to have a very large number of ambulances or can get them at our command. A motor ambulance would want at least three men for day and night duty; it requires 40 feet to turn in, which is a difficulty. I should exclude them. The use of the horse ambulances in the possession of the Metropolitan Asylums Board should be taken full advantage of. The Board possess 66 ambulances for use, and can turn one out within 3 minutes, or even less, in the day; in the night the time must be a little longer. They have, however, practically any number of ambulances, for they have a reserve, and their Chairman has put in evidence that their difficulty was in finding stations: stations ought to be found for them as well as the others. Those ambulances no doubt are very valuable, and we might trust to them until the motor becomes more acceptable. With each of those ambulances one attendant is sent to carry the person, but no first-aid attendant, although if it has to take an infectious case they send a nurse; otherwise they only send a man to help to carry the patient downstairs or into the ambulance; and I believe that is enough as a rule.

1415. You would not look for your First Aid to anyone brought by the ambulance, as I understand?—No, I do not see the want of it. I think that the ambulance is really quite enough. You must remember that the cases are in charge of the police, and I am not discussing or considering whether the policeman should leave the patient and go away; because, in my scheme, he must follow the case to the hospital or infirmary to report it.

1416. Is that the practice now?—Yes, the police always go, I think, with an accident case to the hospital; they take down particulars of the accident and a little account of it, which is all-important; that is according to the Police Regulations, and that is right; they must give a full and particular account of the accident, otherwise the surgeon who takes charge of it would be deficient in knowledge.

1417. You think that the province of the policeman is to look after the patient as soon as the accident happens,

and see him into a proper conveyance and see him to the hospital and report to the hospital?—Yes; I think that is very necessary indeed. The Boards of Guardians throughout London, who are 31 in number, have between them 43 horse ambulances; 7 of the Boards have consented to their use by the police, and therefore it should not be difficult to obtain the sanction of the remaining 24 authorities. The ambulances are always ready for use, and can be got in a few minutes. That brings us again to the infirmaries, and you will remember, I referred to the injured person being conveyed to home, hospital or infirmary; in the outlying districts the infirmaries are very valuable things. They are very fine places; there is always a resident medical officer there, and they are always ready to help. I have had a little experience in that matter in this way. After I left Guy's I was for three years surgeon to a little hospital at Wandsworth Common—the Bolingbroke Hospital—where we used to receive an enormous number of accidents, and we could not always take them in; later on there was a public meeting about it, and the hospital was turned, you might say, into an accident hospital, but we could not then take in a tithe of them; and these poor fellows, if they could not be taken in and must go to hospital, had to tramp or be conveyed four or five miles to Guy's or St. Thomas's. But we used to send many of them to the infirmaries, and the authorities were pleased to take in anything we sent; and any bad case we sent on at once. I know St. George's Infirmary, too, in the Fulham Road—a very useful place—where they took accidents in; and they all ought to take them in; it is part of their business to look after the sick people, particularly if they are in their district, so that the authorities were right to take them to the infirmary of the district rather than to bring them six or seven miles up to a London hospital.

1418. Is that the practice now?—It is utilized a little now, but I do not know that it is generalised as much as it ought to be. As you see here, only 7 of 31 Boards of Guardians have given permission to use their ambulances, so that that shows that they cannot be used generally. But I think it is an important point to bear in mind that those ambulances are an additional assistance for the police, and their number can be enlarged easily. Then through these two sources—the Metropolitan Asylums Board and the Boards of Guardians—the police could bring with safety any injured person from outside the boundary of the accident area to a hospital or infirmary, and if their help is too small such help could be increased. And I do feel that with the infirmaries in the outside districts it would rather encourage patients to be taken to the infirmaries. Within the four-mile radius they could carry them to a London hospital, although four miles is a good distance; still the police say that they get there generally within half-an-hour. But outside that radius it must take hours, and it is terrible to think of. There, you might say, the motor ambulance would come in; and so it would. I think I have completed what I wish to say. I feel quite confident that if the scheme which I have given you could be carried out by the police—and I can see no difficulty in any of it—we should have a very good and efficient ambulance service.

1419. Have you anything to say about extending the ambulance service beyond street cases to cases where either accident or sudden illness has occurred in the houses of the poor?—Do you mean for the conveyance of sick people?

1420. I mean where the same kind of need may arise in a shop or public-house, or places of that kind. One form of criticism which has been made upon the County Council scheme was that it was rather expending public money on one of two objects when both of them were desirable?—No; I have not gone into that.

1421. That was pressed strongly upon me in conversation the other day by a very eminent medical authority?—I should like to say that the St. John Ambulance Association does a lot of that work in a quiet way; they help the practitioners in London more than anything by moving invalids from one place to another, and they will always do it; but I do not think we could mix it up with the police.

1422. You think that the two ought to be kept separate?—Yes; I think that the police have enough to do with street accidents.

By Sir William Collins.

1423. I understand you to say that as regards associating the ambulance service with the fire brigade, it would not answer in our country at all. Are you

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aware that in the provinces there are many cases where the two services are connected?—Yes; I know there are plenty, but the circumstances of those districts are very different from those of London.

1424. Your remark had reference to our country?—Yes, I know, the country part.

1425. You set great store upon the police being taught First Aid, but I understand that you draw a great distinction between First Aid and diagnosis?—Certainly; he is not required to make a diagnosis beyond the locality—the part that is hurt.

1426. You think it is easy for a policeman to cover up the wound, if there be a wound, and then you think that the First Aid on the part of the policeman should be directed to finding the seat of injury?—That is all.

1427. Is it always easy to find the seat of the injury?—No, but then he must take care in finding it that he does not do harm. In a measure, I think there is no difficulty in making out whether it is injury to the head or the chest or the abdomen or the pelvis.

1428. Take one of those cavities; would it always be easy for a policeman to determine whether there was a fractured rib?—Certainly not; but he could make out, if there was a fractured rib, that the injury is to the chest.

1429. Certainly if there is a fractured rib you can easily classify it as belonging to the cavity called the chest; but is it not your experience that, even in hospital work, sometimes fractured ribs are overlooked by competent skilled persons?—Constantly. We do not ask policemen to make diagnoses.

1430. When once diagnosis is made, it may or may not be easy to classify the injury as belonging to one or other of the four cavities; but is it not difficult for a policeman, when he is called to an injured person, to be able to determine where the seat of injury is?—If a man or woman had a fractured rib I think he would say at once, "The pain is here," and then when they attempt to breathe, it is observed at once. It is evident that the chest is affected; and that would settle him in sending for the ambulance, in which the patient might lie down with a pillow under the shoulders.

1431. But you are prepared to admit, I understand, that even after skilled observation a fractured rib sometimes escapes notice?—Yes.

1432. Supposing that a policeman were called to a woman who was faint and even unconscious, how would he be expected to deal with a case like that?—If she is unconscious and faint he would ship her off to hospital at once, and see that she is not allowed to sit or stand up, but kept in a horizontal position in the ambulance.

1433. You would not expect him to find the seat of injury there?—Certainly not.

1434. Or to apply examination and treatment?—No, that would be interfering.

1435. You said that a case ought only to be diagnosed by the hand that is to treat it?—Yes.

1436. Would it not be equally true to say that a case ought only to be treated by the hand that diagnosed it?—No; the assistant-surgeon or the house surgeon might make the diagnosis, but the patient would go into the care of the surgeon for the week.

1437. I am not speaking of the mere transfer of responsibility. In either case you are dealing with skilled diagnosis of a person applying skilled treatment?—Yes.

1438. But then you say that the patient ought only to be diagnosed by the hand that is to treat him?—I mean at the hospital. He would be treated in hospital.

1439. All that leads me up to the question whether useful First Aid does not imply, at any rate, some element of diagnosis?—Some slight element, certainly it does. If a man is knocked down, and you look and find a swelling in the shoulder and nowhere else, you say that the injury is in the shoulder.

1440. Take a case, many of which must have come under your notice, of a thrust into the roof of the orbit, technically called a fracture of the base of the skull; do you think that in that case a policeman could easily determine the seat of injury?—It is an injured head through the orbit; he has not to determine more; he has to carry that patient to hospital as quietly as he can for treatment. That is all he has to do.

1441. But to external observation it might merely be a small cut in the head and it might be dismissed as

rather unimportant?—That is quite true; but the seat of injury would be clear.

1442. Directly after the accident?—Probably, because the injury must be a severe one. Then again the policeman would take, in a measure, the history of the case. If a man fell from a height—if a cabman was pitched off his box on to his head, there is a probability that that man has injured himself severely. It would be different if a man was just knocked down by a stroke on the head with an instrument which caused a small scalp wound. You cannot guard against mistakes at any time, either by the police or by doctors, only it is very injurious for the patient to be over-manipulated. He had better wait a few minutes till he gets to the hospital before he is manipulated, and not allow anybody to interfere with him beyond, as I say, First Aid, to cover up the wounded part to prevent more damage taking place.

1443. We have been told, for instance, of the case of a woman suffering from hæmorrhage, which might be from a ruptured varix in the thigh or possibly from abortion; how is First Aid to be administered in a case like that?—I do not know; you cannot help that. A policeman could hardly uncover the woman, but he would send for a doctor, and the doctor would uncover it, and treat it.

1444. Would not an ambulance, which enabled you to deal with a case in privacy, be very valuable in cases of that kind?—But to get an ambulance you have to wait at least a quarter-of-an-hour, and if the patient has ruptured a vein in the leg, if that limb is not raised up and rightly dealt with, she would be dead in a quarter-of-an-hour. It is a tremendous vein. I remember when I was at Guy's three cases like that being brought in in three weeks. One patient was dead when he arrived, the other two were not dead, and their lives were saved because they were brought in from close by, but if they had been an extra mile off they would probably have died.

1445. Do you think that cases of ruptured varix are not brought to hospital and satisfactorily dealt with there?—Yes, they are.

1446. You can hardly lay down the proposition universally that they would be dead in a quarter-of-an-hour?—I do not lay it down as a universal proposition, but the probabilities are that if it is the big varix in a woman's thigh, or in a man's leg, and the opening in this vein is large, in a quarter-of-an-hour the patient would be dead, in all probability.

1447. It would depend in any case upon the amount of hæmorrhage?—Yes, but even there it would be so palpable that there was bleeding going on that they certainly would send for a doctor at once, and if they were lucky enough to find him at home, and he attended, the patient's life might be saved. But that is a risk that you cannot help; that will happen.

1448. You seemed to think that it was impossible to bring a skilled medical student or other competent assistant in an ambulance to the site of a street injury?—I do not see how it could be worked.

1449. Are you aware that, as a matter of fact, it has been done for years in Liverpool?—That is a different thing; I call it quite different in a comparatively small provincial town.

1450. Do you speak of Liverpool as a small place?—Relatively. The accident area, I take it, would be very small compared with what it is in London (650 square miles).

1451. Do you think that the City of London would be regarded as one of your small places for purposes of comparison?—No; but the City of London, of course, is peculiar; it is all just within a square mile. I do think that the treatment in the City of London would be very different from the treatment outside the City of London.

1452. Do you think that the treatment in Westminster would be very different from that in the City of London?—What do you mean by treatment?

1453. Do you think that an ambulance service which is suitable for the City would be unsuitable for Westminster?—No, certainly not.

1454. As you have been greatly interested in the matter, perhaps you have looked into the case of the motor ambulance in the City?—I know that there is one.

1455. You said that the wheeled litter was more rapid?—It is more quickly done, because you have not to send for the ambulance—it is close by. In the accident area the wheeled ambulance cannot, of

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course, be very far off; and the patient then is carried more rapidly as regards time—not as regards movement—to hospital than he would be under other circumstances, because you have to telephone for the ambulance in the other case.

1456. We have been told by Captain Nott Bower that he had made the experiment with the automobile ambulance and with the wheeled litter, and found that a case could be dealt with by the ambulance in half the time taken by the wheeled litters?—I am not at all surprised at that; taking the road to be clear, and so on, you may do it in half the time.

1457. All his cases were in the City of London?—Yes. We want all that experience; I was not aware of it at present.

1458. I understand that you suggest that it would be desirable to link up hospitals by telephone so as to prevent the scandal of cases being taken from one hospital to another because of there being no bed vacant?—I am glad you have raised that question. I cannot quite see how it can be helped. It must be the case at times when a hospital gets too full. You cannot turn out one patient to make room for another. I know it frequently occurred at Guy's, where they have recently had a little room fitted up on purpose to receive accident cases at all times. An accident may come in at any time and fill up a bed, and then five minutes afterwards another accident may come in. What is to be done? I cannot see how it can be avoided now and then; it is no fault of the hospital.

1459. I thought it was your own suggestion that the hospital should be linked up by telephone?—Yes; but you put the reason—so as to do away with the scandal of cases being taken from one hospital to another. I had not that reason in my mind at the moment.

1460. May I ask what was your reason?—So that under all circumstances the hospital to which the patient is likely to be brought should be quite prepared for one and ready to receive it.

1461. Is not that the same thing—that a bed should be vacant before the case was taken there?—Yes; but I do not see how any hospital can guarantee that. I was saying that the hospitals should be linked up with the police stations, and I would say that the object might be for them to say "We have no bed; do not come here."

By the Chairman.

1462. That is what I understood was the main object?—That was my object.

By Sir William Collins.

1463. You spoke of your experience at Guy's. Are you aware that Sir Cooper Perry, dealing with this question, stated that "The present ambulance services are most inadequate, that much suffering is caused by the way in which accident cases are brought to the hospitals;" and he said that it was "very painful to watch the arrival of accidents at hospitals under the present system."—Yes, I know his opinion quite well.

1464. He is at Guy's Hospital now.—Yes, he is Superintendent. A very clever man indeed.

1465. May I ask whether you agree with that opinion?—I do agree with it to a certain extent. I have seen cases when I have said "Oh, dear me, what a dreadful way to bring that poor fellow in!" and I have seen other cases when I have said, "How nice that is; how well you have done it, policeman." One squares with the other. It depends upon the severity of the case.

1466. And your predecessor in the chair of the Council of the Hospitals Association, Sir Henry Burdett, stated before a committee on this subject, that "The present ambulance provision is no doubt inadequate, and the existing voluntary efforts do not cover the whole ground required. The people he represents would be willing to

disappear in a moment if they could get the system taken over by the Council?"—Yes.

1467. Is that the view of the Hospitals Association?—I do not know about that. That is Sir Henry Burdett's view.

1468. Then you alluded to the remarkably low mortality in the Russo-Japanese war on the side of the Japanese. I suppose in those cases surgeons accompanied the troops, and skilled orderlies facilitated the removal of the wounded?—Yes; they did the First Aid. They carried out just enough for safety, and no more, to enable the cases to be removed, but no operations.

1469. But they were under the direction of skilled surgeons?—Yes; but the principle is the same in both, is it not?

1470. Except that the policeman, with the rather elementary knowledge which you think is essential, would not have the advantage of skilled direction?—Quite so.

1471. You spoke of the wheeled litter as being in your opinion fairly efficient. I think you said that it is the best we have got. I did not understand that you were opposed to the horse ambulance system?—Not at all. I advocate it very highly. I should utilise to the full the horsed ambulances of the Metropolitan Asylums Board and the Boards of Guardians.

1472. You are aware that under the existing law there is no power to use them?—Yes; but seven of them have given permission. I know there has been a little dispute with others.

1473. I am afraid there is not much dispute as to the fact that they are not at the present time, according to the law, able to use them for the purpose of street accidents?—Yes, but seven of them have overcome the difficulty and have granted permission.

1474. They have expressed their willingness to allow them to be so used, although they have not overcome the legal disability under which they remain?—Quite so, but I would emphasise still more strongly the propriety of getting their help.

By the Chairman.

1475. And of recommending that the legal difficulty should be removed?—Yes, the outlying parishes ought to help as much as the inlying parishes; it is a general subject.

By Sir William Collins.

1476. Have you formed any opinion as to the desirability of the same authority dealing with infectious cases as well as street accidents?—I think that with the means we possess now of cleanliness and of so easily purifying horse ambulances, there would be no objection; but I should not like the public to think that the same ambulance that carries a fever patient would carry a wounded man; and I think the authorities of the Metropolitan Asylums Board see that, and they give their men a different dress, and so on; but, with that precaution, I would utilize, where it is possible, the ambulances which are not employed to remove infectious cases, and the Asylums Board might guarantee that they would only use certain ambulances to move contagious and infectious cases, and for other cases they would only use ambulances which had not been dirtied.

1477. You think that the service for infectious cases should be entirely apart from the service for other cases?—Yes.

1478. And that the personnel also should be distinct?—I do not know about that. I do not think that is wanted; it is only the driver. The man who carries the patient certainly ought not to be associated with infectious disease.

1479. Then apart from the driver, you think that the personnel should be distinct?—Yes, I do not see where there can be any difficulty in arranging that.

SEVENTH DAY.

Tuesday, 9th July, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Honourable THE EARL OF STAMFORD. | Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. ANTHONY A. BOWLBY, C.M.G., F.R.C.S., called in and examined.

By the Chairman.

1480. You are a Fellow of the Royal College of Surgeons of England, and Surgeon to St. Bartholomew's Hospital?—Yes.

1481. We should like to have your experience of the condition in which patients come into St. Bartholomew's Hospital, suffering from accident or illness. Of course, our inquiry is with reference to accidents and illness in the streets. I see your evidence goes a little beyond that?—I did not appreciate the limits of your enquiry.

1482. We should be glad to hear what you have to say about the ambulance service generally?—I think I have very little to add to what I have already read in the evidence of Mr. Reginald Harrison and Dr. James.

1483. We should like to have your own special experience, because you have seen these cases?—I do not see them until they come into the wards.

1484. But you can tell us in what condition they came; because it has been suggested that, owing to the present imperfect means of conveying them to hospital, certain deplorable results follow?—I think some patients undoubtedly suffer in transit.

1485. What patients are you speaking of?—Cases both of injury and acute illnesses.

1486. I see you speak rather strongly about cases of acute illness taken from houses?—Yes, but I allude, also, in the *précis* which I gave you, to cases of apoplectic fits and injury to the head, which are liable to be made worse by any improper transit; and many cases of fracture to the leg and thigh are certainly made worse if they are brought in any way except lying down.

1487. What one wants to get at is the amount of preventable suffering that is caused?—I think a great many patients suffer most unnecessary pain in transit. If a patient has a broken leg or thigh and his transit is in any way except lying down, with his leg or thigh steadied by some sort of temporary splint, his pain is very great.

1488. I think every one would agree that a man with a broken leg must be taken lying down?—Many are not, of course.

1489. It is an evil that should not be?—Yes.

1490. Have you paid attention to the different modes of conveying patients to hospitals? There is the question of the motor ambulance, the horse ambulance and the hand ambulance, and we have had a great deal of discussion about the comparative advantages or disadvantages of those?—I should say the present motor ambulance, which has recently been at work the last month or two, is incomparably the best method of transit I have yet seen in London.

1491. And at St. Bartholomew's you have a good deal of experience of it?—We have, of that particular ambulance, which has been in use now about two months. That, I think, is most efficient. I think it is quite the best means of transit of injured people in the streets I have yet seen in London—quite the best.

1492. Are you speaking both of the actual transit and the appliances that are provided?—Yes, the whole thing. I think people are brought there more safely, and with less pain and suffering to themselves, than in anything I have yet seen.

1493. Who brings them, generally, in the ambulance?—The police.

1494. There is a policeman inside with the patient?—Yes.

1495. Generally, it would be a London City policeman?—Always, practically.

1496. How far are the London City police effectively trained in First Aid, and for doing what is necessary?—It is difficult to know; but the patients who have been brought to the hospital have been carefully looked after.

1497. And properly treated, so far as circumstances admit?—Yes, I gather that from inquiries I have personally made, not so much from actually seeing the patient brought in, but from inquiring from my own and other house surgeons. The general opinion is unanimously that these patients have been more carefully conveyed and better attended to than the patients brought in in any other way.

1498. How were they conveyed previously to the establishment of this motor ambulance?—Many of them in cabs, some in vehicles which practically were taken from the street, and not a few in the hand stretchers—the wheeled stretchers. I should like to say, *a propos* of what you asked me about the police, that I think patients have been immensely better taken care of for the last five or ten years than they ever used to be fifteen or twenty years ago.

1499. I suppose instruction of the police in First Aid is a comparatively new thing?—Presumably, but there is no question that the patients are much more carefully conveyed to hospital now than they used to be.

1500. Quite apart from any question of the mode of conveyance?—Yes, quite apart from anything else at all. I believe anybody with the experience of myself and yourself will say the same thing.

1501. Does that extend to selecting the mode of conveyance? I suppose even now a good many people come otherwise than in an ambulance to St. Bartholomew's from the City?—Yes, a very great many people who have trivial accidents come in that sort of way. Some walk.

1502. But the serious accidents would come with the ambulance now?—Yes, I think they all have come in the ambulance lately. The great majority of them certainly have come in the ambulance since the ambulance has been there. That is quite certain.

1503. And you think that has effected great good?—I think it has.

1504. You say that proper ambulances are not only required for accidents and also acute sudden illnesses, they are even more required for the conveyance of many poor people lying dangerously ill in their own homes with acute abdominal complaints. Do a large proportion of the cases of which you are now speaking come from their own homes?—They have not been brought from their own homes in the ambulances that I am aware of, I think the ambulance is entirely reserved for accidents and sudden calls from illness in the streets; but what I put in my *précis* as a statement I am quite certain is a statement of fact. There are a very large number of poor people suffering from acute abdominal illnesses and lying ill in their own homes, (and perhaps they have been in their homes for several days getting worse), whose only opportunity for getting

well is to be safely and quickly conveyed to a place where an operation can be done. A good many of these people who suffer from the want of an ambulance to take them there, I am convinced, never get to hospitals at all, because there is no conveyance. I do not personally attend to these people in their private homes, so that one is dependent upon what one is told by the doctors in practice; but men in practice have told me themselves that very great difficulties are placed in their way. They see a person who is quite poor, in a slum, in London, desperately ill, whose only chance is an operation, and the question is how to get him to the hospital. Even in our own private practice at the west end of London we have patients like that, and the only means of conveying them safely to a place where an operation can be done is in a suitable ambulance, either of the St. John Ambulance Association or of some private person who runs ambulances for his own profit. We engage them, and these people are taken with the greatest possible care. But amongst the poor there is no means of getting them there. We have no ambulances that we can send for these people, and if a doctor was called in and found a patient dying or desperately ill and in great pain, he feels that he cannot get the patient to any place where he can have an opportunity of having his life saved. A great many people are brought to the hospital in this dangerous condition in cabs or costermongers' carts, and in all sorts of vehicles which they borrow from their neighbours—very often at the expense of great pain and suffering, and very often practically so as to take away the last chance of saving their lives. I enquired of a personal friend of mine, one of the surgeons at Liverpool; I asked him: "To what extent is your ambulance service available for that sort of thing in Liverpool?" and he said, "We always apply to the police for leave to use their ambulance in this way, and they never refuse it." The result is that these patients in Liverpool are much more satisfactorily brought to hospital than they ever used to be.

1505. Do you know whether that is at all the case in London; do the police ever, so far as you know, bring people from their own homes?—I could not say at all; I do not know in the least.

1506. You have no experience of that?—No.

1507. Then I see you put in your *précis* that in your opinion ambulances such as you have been describing are even more required for conveyance of the many poor people lying dangerously ill in their own homes. Would you put that evil that you have been just speaking of as an almost greater evil than the question of street accidents?—I did not quite mean it to read like that. I meant it to read that these people are more desperately in need. Most street accidents are brought to hospital somehow or another. Some of these people, I think, are never brought at all.

1508. I do not know whether you have had any opportunity of seeing some of the evidence?—I have read it all.

1509. I should like to have your general view about the relative importance of two main points which have been contended for by witnesses before us. The first is the question of bringing persons who have either met with accidents or been attacked by illness in the streets as speedily as possible and as safely as possible to the hospital; and the second is, supplying them on the spot with skilled aid, giving rather more than First Aid which you would expect the policeman to give. First of all, as to bringing a person speedily and safely to hospital, would you desire to see any system established of either horse or motor ambulances which would in every case of apparent gravity bring the patient to hospital by those means?—Yes, in every case of apparent gravity.

1510. You must leave, I suppose, to the policeman or whoever it is who has first to deal with it, a certain amount of discretion in the matter of seeing whether the case is sufficiently severe or not to justify sending for the ambulance?—Yes, I am sure of that.

1511. You cannot get out of that; that is an inherent difficulty?—No, I do not think so.

1512. But given that, you would have these ambulances for every case of apparent gravity?—Yes, I think that is a very good way of putting it.

1513. What objections do you urge to the present mode of conveyance—the wheeled ambulance of the police?—The wheeled stretcher, do you mean?

1514. Yes, I suppose it is a wheeled stretcher?—First of all there is its slowness—it takes a long time.

1515. But does it in the crowded parts of London?—I should say that it does; I do not know.

1516. Do you attach very great importance to minutes?—Only in a limited number of cases; in the few, not in the many. But I think its publicity is the great objection to a large number of people. You never get a lady or a gentleman brought in it.

1517. They are not quite so much subject to accidents?—No; but practically I do not think any of them would go in it of their own volition.

1518. You think they would object less to your ambulance?—Once inside they are out of sight of the crowd. The ordinary wheeled ambulance is followed by an interested crowd of people all the way to hospital.

1519. Therefore you put that as one of the principal objections?—I am sure it is an objection with many people to its being used at all. Even if it was there they would not allow themselves to be conveyed in that way.

1520. How about the other question? Some witnesses of great experience have advocated an advanced student being sent with the ambulance. What is your opinion with regard to that?—I think there are obvious advantages in a minority of the cases.

1521. Do you think the hospitals would be prepared to provide aid of that kind?—I think so certainly.

1522. Having regard to the number of accidents that happen?—I think that most hospitals could arrange that.

1523. To send a student with the ambulance?—Yes.

1524. You must have one on the spot of course. He must be where the ambulance is ready to go?—Yes.

1525. You think that could be arranged?—Yes, I think so by day at any rate; and there are not a great many of these cases that happen at night.

1526. Do you attach very great importance to it?—I attach much less importance to the skilled assistant than to the suitable ambulance.

1527. And I suppose First Aid training?—Yes.

1528. That you regard as essential?—Yes; those two I think are essential. A skilled assistant is a useful addition, but I do not think he is so indispensable as the other.

1529. I think you said just now in a rather small proportion of cases?—Yes, I think so.

By The Earl of Stamford.

1530. You are not inclined to lay any great stress on skilled treatment in the ambulance itself?—Except in a minority of cases.

1531. Generally speaking, I suppose you hold that the treatment should begin in the hospital?—As a rule.

1532. And less risk would be involved by the treatment beginning there?—In some cases. But, of course, a skilled assistant is an obvious advantage in a few cases.

1533. Is there any room in your opinion for the wheeled litter which is now used. Would you wish to see it superseded altogether by a horse or motor ambulance?—I think if you had a horsed ambulance it would very soon be superseded.

By Sir William Collins.

1534. Do I correctly understand you generally to confirm the evidence given by Mr. Harrison and Dr. James?—Yes.

1535. You spoke of the aid given by the police. To what extent do you think that First Aid can usefully go beyond the careful lifting of the patient into the means of conveyance; to what extent do you think the police should be encouraged to render First Aid beyond that?—I think a little beyond that.

1536. Any question of treatment, even of an improvised character, would imply diagnosis antecedently, would it not?—Yes.

1537. You could hardly expect the police, I suppose, to take that responsibility?—I think not.

1538. Did I correctly understand you to say that there had been considerable improvement, in your opinion, in the mode in which patients reached St. Bartholemew's Hospital since the introduction of this new ambulance?—Yes, certainly. They are brought much more comfortably, and suffer less pain.

Mr. A. A. Bowlby.

1539. Did I rightly understand you to say that the majority of bad cases now come in this automobile ambulance?—So I am told on enquiry of the house surgeons.

1540. I was going to ask you, seeing that you do not see these cases yourself in the first instance, is that the opinion of the house surgeons of St. Bartholomew's?—It is.

1541. Was it the experience at St. Bartholomew's, prior to the introduction of this rapidly moving ambulance, that cases of fractured legs sometimes arrived in cabs?—I think they certainly did, though in much fewer numbers of late years than in past years. There has been much more care in bringing the patient of late years than in former years.

1542. How many years' surgical experience in London have you had?—28.

1543. First as house surgeon, and subsequently as visiting surgeon at St. Bartholomew's?—Yes, I was surgical registrar for eight years, and subsequently assistant surgeon and surgeon.

Mr. THOMAS RYAN, called in and examined.

By the Chairman.

1546. You have been for 20 years Secretary of St. Mary's Hospital, I understand?—Yes.

1547. And you are also Honorary Secretary of the Bischoffsheim Ambulance Service?—Yes.

1548. That was founded in 1889?—Yes.

1549. You have been Secretary ever since?—Yes.

1550. And you have also, I believe, written a Paper on the conveyance of injured persons to the metropolitan hospitals?—Yes, that was the origin of this service really.

1551. I need hardly say that you have had very exceptional opportunities, as Secretary of St. Mary's Hospital, of observing the working of the system?—And seeing patients brought up continually. Being interested in the subject, I have made a point of going to the hall door to see them brought in, and inspected the conveyance. That has been my custom for years.

1552. You have also seen a great deal of the ambulance system, the mode of inspecting, cleaning, and so on?—Yes, one is very familiar with the incidents that attend the use of ambulances in the streets of London.

1553. Will you give us the benefit of your experience, and take your own course as to the way in which you will give it?—Those questions you have asked me bring out just the preliminary points of one's personal association with the subject. You, of course, appreciate that I am not a doctor.

1554. I understand you are secretary?—Exactly; and my experience is that of a man who has made it his hobby, and gone about the streets of London for 20 years. I have made a point always when I saw an accident of going down to look at it, sometimes following it to the hospital, and the rest of it, as a general observer.

1555. It will be of the greatest possible value to us if you will be good enough to tell us your experience?—I am sorry that I have not had sufficient time to methodically arrange everything I should like to say as I should like to have done, and I propose in the first place to read an abbreviation of a Paper which I read recently on the subject, so as to give you my views with regard to it. The Bischoffsheim ambulance service was established in 1889—18 years ago—and is a service of some 60 wheeled ambulance litters of approved pattern, stationed in selected positions throughout the metropolis. It was established by Mr. H. L. Bischoffsheim—hence the name—assisted by a few friends, and has been maintained at his sole expense until the present time. I was concerned in its establishment, having in March, 1889, read a Paper before the Hospitals Association, in which I examined the provision, or rather lack of provision, at that time for dealing with cases of accident or sudden illness occurring in our streets, and submitted a scheme for improving it. That scheme met with the approval of the association, and shortly afterwards Mr. Bischoffsheim

By the Chairman.

1544. With regard to the extent to which First Aid may go, Mr. Bryant, who was called last time, has sent in an appendix to his evidence (which you have not yet had an opportunity of seeing) giving an idea of the extent to which he considers First Aid might go. Will you just look at it and see whether you agree with it. He criticised a syllabus before us as being rather too far advanced—that you could not expect a policeman to get as far as that; but he gives here a syllabus of lectures which I understand he thinks is the extent to which the instruction in First Aid might usefully be given?—(After referring.) I think I should agree with most of this; but I can see, of course, at once, that the great difficulty would be in finding the wounds and getting at the wounds in case of women. The constable being a man, obviously there is a difficulty.

1545. There must be difficulties of that kind?—With that exception it seems to me that I should agree with it.

undertook to provide the funds for its establishment and maintenance—an undertaking which he has most generously carried out. At the present time the number of ambulances comprising the service is 62. At hospitals 17, employed per annum 778 times; at fire brigade stations 9, employed 219 times; in thoroughfares 26, employed 767 times. By thoroughfare stations one means an ambulance shed placed in a prominent thoroughfare with one of these wheeled litters inside. As a matter of experience it early became obvious that the best possible thing to do is to place the ambulance where the accident is likely to happen, that is in the busy thoroughfares; that was the origin of these thoroughfare stations.

1556. Are you going to say anything about the difficulty of finding stations?—I was not going to dilate on that.

1557. Is that a difficulty?—One of the most laborious tasks I have ever had to perform was the correspondence with the various authorities in London, with a view to getting stations fixed.

1558. The Commissioner of Police dealt with a similar question in evidence given lately. Have those difficulties been more or less solved?—As time has gone on, with the exception of a single one here and there, the difficulty does not exist as it used to do; I mean to say it has worn itself out, so to speak.

1559. Supposing you wanted to establish a new ambulance, would you have any difficulty?—It would be rather troublesome, involving correspondence with the police in the first place, and then with the local authorities, long delays and so on. It has been a very tedious business.

1560. That must occur from time to time as you keep adding to the ambulances?—True.

1561. So that it is an existing difficulty?—It is an existing difficulty; but less so than formerly. The difficulty presented itself in its largest aspect at the commencement.

1562. When you had to place a great number of ambulances?—Yes.

1563. But the Commissioner of Police spoke of it as a serious difficulty still as regards the police ambulances?—I can imagine that he may have felt it. I think recently the police have been engaged in an endeavour largely to increase the number; so that they would have felt it.

To resume about the number of ambulances and how often they are employed: On other stations there are ten, which are used about 153 times a year. I may mention here that one of them, viz.: that at the Royal Exchange, was used last year—that is 1905-6—79 times. So that the total number of ambulances was 62 when this paper was read a short time back; and the number of times in the year that the ambulances were used was 1,917 times. I may also state that on these ambulances in these 18 years more than 25,000 sufferers have

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been carried. The establishment of the Bischoffsheim ambulance service was a practical answer to the question: "What did London need in the matter of provision for cases of accident or sudden illness in the streets?" What are the essentials for effectively dealing with a case of street accident? They are two in number: (1) First Aid for the victim as quickly as possible; and (2) Suitable means of transport. Perhaps it will assist us if we sub-divide these essentials thus: (1) First Aid, (a) the men, (b) the training; (2) Transport, (a) the means, (b) the men to use it. How many of these four requirements were satisfied in 1889? Taking (1) First Aid, the men,—this requirement was met by the police, and in no other way could it or can it be satisfactorily met. In my personal opinion that is the foundation basis of a satisfactory ambulance service for London. The policeman is on the spot, he has got to handle that patient, do and say what you like; and I think you must build upon that fact.

1564. You can impose it as a duty upon the policeman, but there is no one else available?—Yes. In the great majority of cases the policeman is there. He will have to get that patient out of the roadway well or ill. I hope you will not mind my dwelling upon that, because I am very strongly of opinion that much depends on recognizing that fact and realizing its import.

1565. That is a fundamental point?—Yes. London consisted then of some 90 square miles, and there were always posted about it at least 2,000 disciplined men, a number largely increased at night, engaged in the discharge of public duty, the safeguarding of life and property. I refer of course to the police. Therefore whenever and wherever, in the Metropolis, an accident occurred, or at any rate in the busiest parts where of course they are most frequent, there was one practical certainty, viz., that as a rule the sufferer would fall, first of all, into the hands of the police. This is the crucial moment for a case of accident. What happens to the victim then will go a long way to determine his ultimate fate. Upon it largely turns in serious cases the question whether he is at once going to be put into the road of safety leading to ultimate recovery, to lose his life, or be maimed for the rest of his existence. We have seen that what will happen to him will happen at the hands of the police. The fact is emphasised in a striking manner by an appeal to figures. I do not think I need take up your time with these, because you have already had from the Commissioner of Police the figures that I have here quoted, so I will not labour that point. It was the question of the very considerable proportion of cases of accident which the police handle and convey to hospital. The police then are unmistakably indicated as answering to the first requirement: First Aid, the men. We now come to the second requirement: First Aid, the training. To deal beneficially with a badly injured person is not as a rule possible for an untrained person. The immediate necessity in many cases is to move the patient out of the way of traffic. To do this without inflicting further injury requires training. A broken limb has to be fixed by the application of such a splint as is available or can be improvised and so on. The next necessity is to render the sufferer such additional assistance as shall, as far as possible, safeguard him from further injury till he can be got to hospital. This service also requires the knowledge which can only come from training. The training necessary for the successful discharge of these offices is what is known as First Aid, and is a training which a police constable is capable of acquiring. Subject to correction, that is my opinion: the opinion of a non-medical person. The next requirement is—Transport, (a) the means, (b) the men to use it. We will consider these together. In the days of which I am speaking, cases of accident, as now, were for the most part conducted to hospital by the police, and the means of transport generally employed was the hansom or four-wheeler. Occasionally the three-wheeled bone-shaker, as I call it, the police ambulance of those days, improved since, was employed. I presume from its construction it was designed for the transport of "drunk and incapables"; at any rate it was not exactly the quintessence of comfort for an injured person.

1566. Was there any means of lying down in it?—Yes, there was, but it was an iron tyred wooden wheeled ambulance. I still occasionally see one of them about. It was shaky and a terrible thing for a man badly hurt. I remember dwelling on this when I read my paper, and I was much concerned for many years after that to see how little was done to take

them off the streets. But I have reason to think, still more from reading the evidence which has been given before you, that it is very largely done away with now, and that the number of comfortable police ambulances has greatly increased, increased, I may say, to a larger extent than I had any idea of. The means of transport were therefore lacking, and much preventable suffering, permanent disablement, and even loss of life were the consequence. Of the four essentials for the efficient dealing with cases of street accident we thus see that two were present, the men to render First Aid, and the men to transport the patient to hospital. Two of the essentials were wholly or partially wanting, viz., the training to qualify for efficiently rendering First Aid, and suitable means of transport. The first of these two missing essentials, the training of the police, was a matter entirely beyond the scope of private enterprise, except so far as suggestion or advice were concerned. It was a matter for the authorities of the public department administering the police. The second—suitable means of transport—was a matter which private philanthropy could take a practical part in. Mr. Bischoffsheim was the philanthropist who took that part, and has continued to take it for 18 years at an expense of many thousands of pounds. There in brief is the story of the establishment of the Bischoffsheim ambulance service, and we have obtained in sketching it a passing glance at some of the most important features of the general question under consideration. At this point perhaps I might hand in a return which I have here of (1) a list of stations in July, 1907, arranged in the postal districts; and (2) statistics of the use of the service annually since 1901; I did not think it worth while to go back farther than that (*handing in the same—see Appendix XII.*). The statistics of individual stations show a great variation in the number of cases moved. I think it is very desirable that I should explain that in the cases of many of those thoroughfare stations the statistics are mere estimates. As in many cases there is not even a cabmen's shelter near, it is exceedingly difficult to collect reliable statistics, in fact, impossible.

1567. What is the exact mode of using the Bischoffsheim ambulance. It is there available?—Yes.

1568. Anybody can get at it?—The object was to put it there so that the police might have suitable means of transport.

1569. The police have no special control over it?—None.

1570. Nor special key?—No. Anyone can get at it. As a matter of practical experience it is mainly used by the police, of course.

1571. Still, any bystander might get it?—True; and, as a matter of fact, it is frequently so used.

1572. One knows the look of them as they stand in the streets, of course; but what would a bystander have to do? He would simply put the patient in?—He would have nothing to do but wheel the ambulance out of its shed, and there you have stretcher, First Aid appliances, triangular bandages, roller bandages, tourniquets, and splints and pins, all in a basket underneath the stretcher. The stretcher is specially constructed with very short legs so that it can be placed low down beside the patient, so that you have to move him as little as possible to put him on the stretcher—which is an important point—and everything is comfortable. It is very easy running; quite the most comfortable thing to ride in that I have ever been in.

1573. Can the First Aid be applied inside the ambulance itself?—No; the shed itself is only intended to house the ambulance litter and keep it out of the weather.

1574. The ambulance itself is only to take the patient—Precisely; it is simply a wheeled stretcher.

1575. How does it differ from a police ambulance?—I do not think there is any essential difference.

1576. In size or anything else?—In size or anything else. It is a little bit differently built, but essentially it is the same sort of thing.

I now propose to consider in a few words the question of the need of a horse or motor ambulance service for street accidents in London. As I have not had time to prepare an exhaustive detailed examination of this question, and as I make bold to say that you are not prepared to listen to such a treatise, I am going to be brief in dealing with it. I come at once to the point, and boldly state my belief that if the whole of the members of the Metropolitan Police Force are trained and kept efficient in First Aid, a horse ambulance service for street accident cases in London is unnecessary. I append to that confession of faith the expression of my

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opinion that, unless a horse ambulance service for that purpose is indispensably necessary, the great expense, both for first cost and subsequent upkeep, which it would entail renders its establishment unjustifiable. The principal reason urged in favour of a horse ambulance service is the promptitude with which First Aid can be brought to the injured person. But if First Aid can be rendered by the police it will be on the spot, and the policeman, instead of summoning a horse ambulance to bring it, will render it then and there himself. What will be the policeman's procedure? Having fixed the broken limb, where the patient lies, with such a splint as may be available or can be improvised, or having arrested bleeding or what not, he will place the patient on a stretcher carefully laid at his side, carry the stretcher with the patient upon it out of the traffic-thronged roadway, and place him, still upon the same stretcher, on the hand ambulance, which by that time will have arrived, and convey him at once to the hospital. I think I have made it clear that prompt First Aid is not dependent on the horse ambulance. Therefore that ground for the establishment of a horse ambulance service is disposed of. Another reason urged in favour of a horse ambulance service is that the object should be to bring the hospital to the patient, the hospital, for the time being, being a horse ambulance dispatched from a hospital or depot, with a fifth year's medical student as surgeon. With this view I beg very respectfully to disagree. If the object of the travelling hospital, with its student surgeon, is to render First Aid, we have already disposed of it. If it be to give intermediate treatment on the way to the hospital, I venture to submit that in the great majority of cases such treatment is not desirable. Two manipulations, one where the patient fell and one at the hospital, are all that are desirable, and another, intermediate between the scene of accident and arrival at the hospital, would not render the third at the hospital unnecessary. Further, the senior student is not available for the duty. Those who are acquainted with the facts concerning present day medical education in London know that the number of medical students at the London hospitals has greatly declined, and that several hospitals are put to it to provide an adequate staff of clerks and dressers to attend to the patients at the hospital. It is obviously hopeless to expect hospitals thus situated to have, at all hours, a senior student to act as ambulance surgeon. It is equally hopeless to expect the student to forego the chance of assisting in work in the theatre, wards, or receiving room of his hospital, in order to superintend the transport of a man whose broken thigh has already been fixed with an improvised splint by the policeman, or, what is not less likely to happen, the conveyance of a drunk and incapable person who turns out not to be suffering from any injury at all. The only purpose, therefore, which horse or motor ambulances would serve would be the speedy conveyance of the sufferer to the hospital. It is undeniable that such means of transport would be much more speedy than the wheeled litter; but I beg to point out that, assuming First Aid to be prompt, and the patient to be placed on a stretcher, the question of great celerity in getting him to the hospital is, in most cases, a matter of comparatively small importance. Supposing the distance to be covered to be a mile, I submit that the question whether the patient reaches the hospital in 5 or 20 minutes is comparatively unimportant. The welfare of the patient does not depend on whether he is conveyed in a motor ambulance, a horse ambulance, a wheeled litter, or even a stretcher carried by bearers. The crux of the matter is not horse or motor ambulance *versus* wheeled litter, or even hand-borne stretcher; but, in serious cases, any one of them *versus* cab. I do not say that it is not better to convey a patient quickly rather than slowly to hospital. That would be absurd. What I do say is, that it is a matter of minor importance, and that it is a matter involving no serious consequence to the patient.

1577. I suppose the question of speed must depend a great deal on the character of the case?—Yes, no doubt, but the proportion in which it would be of real moment is small.

1578. In some cases speed is most essential?—In the great majority of cases, I venture to think, it is not essential, and I think it has been greatly overstated. One's own experience at St. Mary's, especially in connection with the recent return that we supplied, was that patients, as a rule, were conveyed to the hospital, on the average, I should say, inside 20 minutes. It must never be forgotten that a very large proportion of the accidents in the streets of London are comparatively slight accidents; they are not all burst veins in the upper part of the thigh or concussion of the brain.

1579. Is it your experience at St. Mary's that accidents happen in batches; say, on a frosty evening when it is slippery?—It is a point that I made in my *précis*. That is my experience. I think it is a very important feature of London accidents that they do tend to occur in batches—by batches I mean several at the same time in the same neighbourhood. I suppose it is a matter of experience with every man who moves about in the streets of London that it must be.

A thoroughfare station ambulance service is maintained at an average cost of about £10 per annum; that is one of the thoroughfare stations involving putting up a shed. A station at a fire brigade station would cost less of course, because there is nothing but the ambulance stationed in the fire brigade station hall. If a horse ambulance could be maintained, say, for double that sum, I would advocate the horse ambulance. But those who are entitled to speak on the subject put the annual cost of maintenance of a horse ambulance at not less than £200, a figure which I venture to say would be greatly exceeded, and it is my opinion that the advantages likely to result from its use are not proportionate to such an enormous increase of expense. I will conclude my remarks by indicating briefly, in general terms, what I consider would be sufficient provision for street accidents in London: (1) The stationing in inner London, by which I mean an area somewhat larger than the four-mile circle, *i.e.*, about 60 or 70 square miles in extent, at distances of half-a-mile, wheeled hand litters of approved pattern; (2) the placing midway between every two ambulances of a stretcher with First Aid appliances. These arrangements would ensure that wherever an accident occurred a stretcher and First Aid appliances must be within 220 yards, and an ambulance within a quarter-of-a-mile.

1580. I suppose the only people who would know the actual position of the stretchers and ambulances would be the police?—It certainly would be so at first; but if some suitable means were taken to indicate the whereabouts of these things it would become a matter of public knowledge presently. By the time a First Aid constable had prepared his patient for moving the stretcher would be at his side, and the ambulance would be forthcoming immediately after. (3) The placing in suitable non-central positions, such, for example, as the London Hospital, the Great Northern Central Hospital, the West London Hospital, and Guy's or St. Thomas's, of horse ambulances, for the transport to hospital of cases occurring in outer London where the distance to hospital is too great for the hand ambulances to be suitable.

1581. You would have them at the hospitals?—I thought that on the hospital premises would be a very suitable place. My point is that wheeled hand-litters in central London, and horse or motor ambulances for outer London, would, together, represent an efficient system.

1582. Under whose control would they be?—They might be under police control or hospital control. I did not venture to work out a scheme; but, in general terms, that I think would be a thoroughly suitable and efficient service for London.

1583. Have you considered at all the facilities which are afforded by the Metropolitan Asylums Board. They have more ambulances apparently than any other body?—Yes.

1584. An almost unlimited supply of them?—No doubt. I have not considered their resources in this connection.

1585. That would work in with your scheme?—Perhaps so. Then I have the question you mentioned a moment ago—I need not dwell upon it—of the irregularity in the occurrence of accidents.

1586. Yes, I should like to hear what you have to say upon that?—It is a common occurrence for several accidents to occur practically simultaneously in the same neighbourhood. It is well known to me, as a matter of practical experience, during the 18 years I have been specially interested in this question, that the occasions are frequent when several accidents occur in the same neighbourhood at the same time. It seems to follow from this that one of the most essential characteristics of an efficient ambulance service for London is that the ambulances shall be numerous. That is the point, I think. The finest ambulance in the world, the most up-to-date and handsome contrivance, will not make up for the fact that there will often be three or four cases happening at the same time in the same neighbourhood. Not even a horse ambulance or a motor ambulance can be in two places at the same time. Then arises the question whether there is really any

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evidence of patients being the worse for unskilful handling, and for what it is worth I state that my experience at St. Mary's and my enquiries of the Casualty House Surgeons and officers, especially of recent years, tends to show that there is little ground for such complaint, and that cases are really exceedingly well handled, so far as the officers can tell. No one, of course, can quite say that a case is not a bit the worse for the treatment it may have had half-a-mile off, or how much of the injuries the surgeon finds are the direct result of the accident and how much of unskilful handling, &c.; but although a surgeon cannot positively say that, yet, seeing what injury the patient has received he receives a general impression on the subject all the same, and that impression has been that these cases seem to be well handled.

1587. Take the case of a man with a broken leg coming in a hansom cab?—I venture to think that a thing like that now scarcely ever happens. I saw cases quoted in the evidence the other day where people with concussion were sat up in a hansom cab, all I can say is that I never see them. I dare say at one time it may have been so. I am confident that a policeman does not now seat insensible patients upright in a hansom cab.

1588. Do you think there is evidence, and considerable evidence, of some care at all events being exercised in the selection of the vehicle? Would a policeman know, for instance, when to send the man in a cab or not?—I think so, most distinctly. If he were trained in First Aid, most certainly.

1589. You are speaking, of course, a good deal from hearsay, apart from your own experience?—Something from hearsay, but a good deal from personal observation.

1590. So far as your experience goes, are you aware of many cases of that kind? I suppose there are some cases where a man comes in a cab who had much better have come in a lying-down position?—Yes, I think it would occasionally be so; but it is rare. I have seen insensible people lying in the street, and seen the policeman wait a long time for the ambulance and not send the patient off in a cab.

1591. You are in pretty constant communication with house surgeons and surgeons who actually see the patients?—Yes.

1592. Would you probably hear or be told of any particular case where there had been improper or unwise treatment of that kind?—Certainly. It has been my practice to inquire, as a matter of fact. Being interested in this as a hobby all these years, it has been my custom to go to the front door and see the cases brought in and to make inquiries. I can remember some bad cases. I have a particular recollection of one case two or three years ago. I saw a young man knocked off his bicycle by a cab in Kilburn, or Maida Vale I should say, perhaps; he almost fell against the Bischoffsheim ambulance box, and yet I saw the policeman pick him up and put him in a hansom, and take him off to St. Mary's. That is one of the worst cases I remember. Those things used to happen frequently. Now, I think, they do not happen frequently. I made an abstract the other day of the forty cases brought to St. Mary's Hospital in a fortnight, and I found that fourteen were serious. Of those fourteen, seven were brought on an ambulance, two were brought on a stretcher, one in a motor (which had been the cause of the accident), one in a cart, and three only in a cab. Of those three, two cases were adjudged by the house surgeon to be slightly the worse for having been brought in a cab.

1593. Does your abstract give the nature of the injury?—I am afraid it does not. I do not think the return called for that point. Seven of those cases had received First Aid.

1594. I see now that we have the actual returns of those cases (*Appendix I., p. 54*)?—Yes, mine was just a summary of the severe cases in those returns. I went to some trouble to mark on the return the distance of the sites of these accidents from the nearest ambulance station; but on seeing from the evidence which has been submitted to you that much more complete returns have been handed in, I will not take up your time with it.

By Sir William Collins.

1595. Did you assist in the compilation of these returns?—No, not further than editing the original rough manuscript before having a fair copy made for your use. I had better explain. In the first answers to these questions such as, "If so, would the medical requirements have been met by (a) (b) (c) and (d),"

the casualty house surgeon put "No" when "Yes" was obviously what he meant. He did not then appreciate the meaning of the question.

1596. The original shows the editing?—Yes, on the face of it (*handing the same to Sir William Collins.*) It was obvious that the casualty house surgeon had not quite appreciated the meaning of the question.

1597. Did you point that out to him?—Yes. As a matter of fact I called him in and pointed out these things to him. The corrections were made by us together, after I had called his attention to them.

By the Earl of Stamford.

1598. Have you considered that point about the objection on the part of patients to being taken by hand litter on account of the exposure to view, and to being followed by a crowd, and so on?—Yes, they are followed by a crowd very commonly; but I have no personal experience of patients objecting to get into a hand litter because of that. It is rather news to me.

1599. It is a point which has been made?—I dare say.

1600. Especially with patients of a certain social standing?—Very likely.

1601. Then in order to render this First Aid available have you any opinion as to the universal training of constables in First Aid?—I have a very strong opinion that it is absolutely necessary that they should all be trained, and equally necessary that they should be kept efficient.

1602. Yes, that was another point?—I have always dwelt upon it. A policeman will very soon forget his training. A short revision class, say every three years, would keep him from getting rusty.

1603. Then your view would be that the wheeled litters would supply generally the needs of the metropolis, but for the outlying districts you would provide rather differently?—Yes, horse or motor ambulances.

1604. Have you any preference?—I am afraid I have no special knowledge on the subject of their relative merits.

By Sir William Collins.

1605. The Association of which you are honorary secretary was founded in 1890, was it not?—It was in 1889, I think, that I read my Paper, if I am not mistaken.

1606. I understand the condition of things prior to the foundation of your association in London was, in your opinion, very unsatisfactory?—Very unsatisfactory.

1607. In the report of your association for 1899 I think there is this paragraph: "Prior to the establishment of the Hospitals Association Street Ambulance Service, at the end of 1889, cabs were almost exclusively employed in the transport of cases of street accident, with the well known result—frequent conversion of slight casualties into grave injuries. During the first three years of the existence of the service our ambulances superseded the cab as a means of transport for cases of accident in one out of every three cases." Apparently your association entertained a strong objection to the use of cabs because of their frequent conversion of slight casualties into grave injuries?—True.

1608. I suppose that objection to the use of cabs would still remain?—In unsuitable cases, yes.

1609. We were told by the Commissioner of Police that out of 8,002 cases of accident in the streets, 2,709 only were conveyed by ambulances; so that apparently there is still a large margin of cases conveyed by means other than an ambulance?—Yes, no doubt.

1610. And sometimes no doubt by a cab?—Sometimes no doubt by a cab. Before one appreciated the weight of such statistics as those one would have to differentiate between the slight cases and the bad cases, and to know what the other means were in addition to cabs.

1611. Still, may I take it from you that the objection entertained by your association in 1889 to the use of cabs because of frequent conversion of slight casualties into grave injuries by their use, would be an objection which would still remain in so far as cabs are utilised for transport?—In similar circumstances. I should not like to commit myself, I mean. There probably are a very large number of slight cases which could perfectly fittingly be conveyed in cabs.

1612. Would you say that it is never the case that cases are brought with fractured legs to hospitals in cabs

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at the present time?—I should not like to make so strong a statement as that. I have no doubt that the policeman makes mistakes. He is in a very difficult position.

1613. You spoke rather severely of the three-wheeled bone-shaker which was in vogue with the police some years ago?—In the days when this service was established.

1614. Was it in 1889?—1889—eighteen years ago.

1615. Did I correctly understand you to say that for many years afterwards it was still on the streets?—I think so.

1616. No training is undertaken by your Association, I think?—No, no training. Let me correct that. Ten or twelve years ago, perhaps, we collected all the cab-shelter attendants—cab shelters being near where the boxes are placed in the streets—and we formed a class of them for instruction in First Aid. They were all put through a course—the St. John Ambulance course—and examined at the end of it, and each one of them gained his certificate. With that exception we have given no training.

1617. That was ten or twelve years ago?—That was ten or twelve years ago.

By the Chairman.

1618. Has it been kept up?—No, it was not.

By Sir William Collins.

1619. I think you supply no service with your ambulances?—No service, other than the inspection and cleaning of them.

1620. But not in their use?—Not in their use.

1621. In the statistics that you have handed in as to the use of the Bischoffsheim ambulances (*Appendix XII.*), I notice that those stationed at hospitals appear from your figures to be less used now than was the case in 1901-2?—Yes.

1622. I see 880 occasions on which they were used in 1901-2, and there has been an irregular rise and fall, but in 1906-7 it is 648?—Yes. I should also like again to call attention there to the fact that if you were to inspect the figures you would see that they do not pretend to be an accurate record of the use of the ambulances. What happens is this: I write once a year to the Secretary of the Hospital, or to a cab-shelter attendant, and tell him I am about to compile my annual statistics, and ask him to be kind enough to let me know how often his ambulance has been used; and the commonest reply is: "We keep no record, but I should think from inquiry that it is used 10 or 12 times a month," or "two or three times a week," or something of that sort, and those figures mean that and no better than that.

1623. I suppose that would apply to all the years equally?—Yes. I am not mentioning that to explain the difference. I quite follow you that there appears to have been a falling-off.

1624. I notice that the grand total, for instance, 2,518 occurrences of ambulances used in 1901-2, fell to 1,952 in 1906-7?—Yes.

1625. I was wondering whether you wished to offer any explanation of the tendency to the less frequent use of your ambulances?—It has occurred to me—I do not know whether it is so—that it is because the police have largely increased the number of their ambulances and are doing their work very much more completely, I think, than they used to do.

By the Chairman.

1626. Have you diminished the number of your ambulances?—No; they remain at about the same figure. We close a station now and then, if we find it infrequently used, and open one in a better situation.

By Sir William Collins.

1627. I think you were so good as to give some evidence before a Committee of the London County Council in 1901?—I think I remember it.

1628. I think you were able to state, with regard to Mr. Bischoffsheim, who I believe has most generously and philanthropically provided for the expenditure of your Association?—All through.

1629. You stated: "It should not be understood that Mr. Bischoffsheim would object to the service being supplemented by a small number of horsed or motor ambulances, as it might well be that such an addition would be useful; but he was satisfied, after an exhaustive

experience, that the general characteristic of the service must be a large number of light hand ambulances, supplemented, it may be, by a few of the horsed or motor type"?—True.

1630. I was wondering whether you have heard that Mr. Bischoffsheim since then had written to the London County Council offering to present them with, I think it was, an up-to-date motor ambulance?—Very likely.

1631. One or more, if they desired, and were able to use them?—I daresay; I have no personal knowledge of it.

1632. Then Sir Henry Burdett was Chairman of your Association, was he not, at one time?—Yes, he was Chairman of the parent Association.

1633. He apparently stated that "The present ambulance provision is, no doubt, inadequate, and that the existing voluntary efforts do not cover the whole ground required. The people he represents would be willing to disappear in a moment if they could get the system taken over by the Council. He thinks it is properly part of the work of the Council to organise a proper service for London, and if the Council did nothing more, it could afford the existing service sites for other stations." That I apprehend was the opinion of the Chairman of your Association at that time?—Yes.

1634. Is Mr. Bryant your Chairman now?—No, Mr. Bryant has ceased to be Chairman.

1635. Who is the present Chairman?—As a matter of fact this work is the work of Mr. Bischoffsheim and myself only. There is no Chairman. Mr. Bischoffsheim bears the whole expense and directs the whole thing, and I conduct the immediate supervision.

1636. But did not Mr. Bryant tell us that he was in some way connected with it?—He was at that time.

1637. Mr. Bryant, who has been in some way connected with your Association, told us when he was here, as regards the use of the horse-ambulance system; "I advocate it very highly. I should utilise to the full the horsed ambulances of the Metropolitan Asylums Board and the Boards of Guardians"?—Mr. Bryant must speak for himself. I would rather say nothing about this question as I have not carefully studied it. Perhaps I might make things better understood if I were to explain that what we now call the Bischoffsheim ambulance service was formerly connected with the Hospitals Association. It was before the Hospitals Association that I read my Paper in 1889; and this ambulance service when founded was regarded as a branch of the Hospitals Association, but it was more nominally—constitutionally, you might say—than anything else. Mr. Bischoffsheim always found the money and I always did the work; but the scheme arose out of a Paper read before the Hospitals Association, and so the resulting service came to be regarded as a branch of the Hospitals Association, which had its chairman and treasurer, and so on. I only mention that to show that these gentlemen were not daily in process of working at the thing as Mr. Bischoffsheim and myself were.

By the Chairman.

1638. Are your ambulances at all used for taking people from their homes to hospital?—Not at all.

1639. Would there be anything to prevent anyone coming and taking an ambulance to take a man from his home to hospital?—No, I think not.

1640. But, as a matter of fact, they are not so used?—I do not think they often are.

By Sir William Collins.

1641. What is the area of operations of the Hospitals Association; it is a rather ambitious title?—It was an association before which matters interesting to hospital officials were discussed, papers read on the pay system in hospitals, and so on.

1642. Not limited to London?—Not limited to London.

1643. Did the Association consider the system in vogue for ambulance purposes outside London?—Yes, in days gone by we have considered that question, and had the particulars of Liverpool, New York, Berlin, and Vienna.

1644. Have you yourself studied those systems?—Yes.

1645. Do you think that would be wise for Liverpool to revert to the system of wheeled litters?—I am afraid I am not strong enough on Liverpool's conditions to be able to speak on that. I know I saw in a German paper, two or three years ago, that in Vienna an interesting trouble had sprung up from the use of the horse ambu-

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lance service, which was the sending into the hospitals there by private doctors of patients thought to be very much too well-off to go into the hospitals; in other words, that it induced hospital-abuse because of the difficulty of sending away a patient who had been brought on an ambulance to the hospital door. I had not thought that this question would be asked or I should have brought that extract down with me.

1646. Perhaps you will give the reference to it; it is a little wide of the inquiry?—Yes.

1647. I was rather anxious to know, as you so strongly advocate the use of wheeled litters, how far the Hospitals Association or the Ambulance Department had instituted a comparative inquiry as to other systems elsewhere than in London?—I think we have never gone any further than to get the Consular Returns published some years ago, and to get particulars of the New York and other services and look into them. There was never a thorough considered Report drawn up on the subject.

1648. Do you think it was a retrograde step on the part of the City Corporation to introduce the electro-mobile ambulance?—For what my opinion is worth, I should have thought so.

1649. As regards the returns for St. Mary's Hospital (*Appendix I.*), which you have kindly summarised for us, I understand that in the fortnight during which these observations were kept there were some 40 cases dealt with?—That was so.

1650. I gather, from hastily looking through the Return, that in four of those cases the Return states that the mode of conveyance was unsuitable?—Very likely. Certainly in three, and probably in four.

1651. That would give 10 per cent.?—Yes.

1652. And if four cases of unsuitable transport occurred in a fortnight I suppose that would give us some hundred cases in the year?—Yes, about a hundred.

1653. And if the experience at St. Mary's was similar to that elsewhere, and you multiply that by the number of other hospitals in London, that would make more than a thousand cases of unsuitable transport in the year?—Yes, no doubt.

1654. You mentioned the word "editing" with regard to these returns, but you afterwards explained what we are to understand by it. But one case which caught my eye in looking through them was a case on April 29th. In the return as presented to us, opposite the question, "By whom was First Aid rendered and was the First Aid efficient?" there is a blank space; but in the Return you have kindly handed to me apparently there was a reference to some police constable, which is crossed out in red ink. Perhaps you can explain that?—I cannot charge my memory with that now. The question was, "Was First Aid rendered on the spot?" Then, if you notice, the officer writes, "None required."

1655. But it was the subsequent entry to which I referred, "And if so, by whom—doctor, police, or private individual?"—But if First Aid was not required, the further question, "By whom," becomes meaningless. I cannot make out what the writing was; it seemed as if the sense was missed. At any rate, you may take it from me that all these alterations were made by me in the casualty house surgeon's presence, and with his concurrence, as the result of running through the forms with him to see that he had not by mistake made an inappropriate answer. You will perhaps be seeing him, and might like to ask him a question on that—that is, Mr. Batten.

1656. Just one other question about the First Aid that can be rendered. You told us that you did not speak as a medical man, but as a man very experienced and interested in these matters. You spoke of a policeman having fixed a broken limb or arrested hæmorrhage. That sounds very simple, but there may be a question of considerable difficulty in ascertaining whether there be and what is the broken limb, and what is the source and nature of the hæmorrhage?—Yes, it is a matter of experience. If one is in a street and sees an accident I should think the proportion of cases is small where it is not fairly obvious what the broken limb is and where the hæmorrhage is from. I am simply speaking from what I have seen. If a person is knocked down by a cart many people see it and rush into the road at once, a policeman comes up, and it is pretty obvious, as a rule, where the injury is.

1657. When the injury is obvious, of course it is obvious; but the whole point is that there may be dangerous and serious injury which is not apparent on the surface, and there may be hæmorrhage from a part not easily get-at-able?—Yes, true. Of course one knows

even in hospitals how difficult it is in cases of fractured skull and so on; the Medical Officer himself cannot or does not always make it out.

1658. Do you reside at St. Mary's?—No, I do not.

1659. Then you do not see the night cases, but the day cases?—I am very often there until about eight o'clock in the evening; regularly, I might say, I am there until about eight in the evening, and I have seen thousands of cases brought in in these years, and continue to see them.

By the Chairman.

1660. What sort of proportion of cases come in at night?—The greater proportion come in in the twilight of evening and early night, I should say. Of course it is only hazarding an opinion as the result of general experience; I have not prepared statistics on the subject, but, if you ask me, I answer that in winter and bad weather, when the cases are numerous, most of them occur between four and eight in the evening.

1661. When it is getting dark and the streets are still crowded?—Yes, that is the kind of thing.

1662. What system of inspection of your ambulances have you, to see that they are clean?—We have an Inspector who keeps up a perpetual round of cleaning, and reports to me on their condition.

1663. Is that a matter of some difficulty, keeping them clean?—I do not think so.

1664. Do you find them dirty?—One cannot pretend to keep them surgically clean, as I heard suggested the other day; it would mean keeping the surfaces sterilised practically; and perhaps, without being a medical man, I may suggest that if a patient's leg has been broken and then hastily bandaged and splinted up by the constable and rolled round with a roller-bandage and all the rest of it, that the patient's wound, so bandaged, is not likely to be poisoned on the way to the hospital because the canvas of the stretcher is not quite spotlessly clean.

By Sir William Collins.

1665. How many persons can your ambulance carry? One only?—One only.

1666. Then a horse ambulance would have that much advantage, that it might take two or three?—It might take two or three.

1667. You spoke of two or three accidents occurring at the same time. To that extent the ambulance with the larger capacity would be more useful?—Except that it would have to go (which I think is not contemplated, and has never been contemplated) from A to B and C and pick them up in a series.

1668. I thought you contemplated, say, a case of a scaffold giving way and two or three workmen being precipitated to the ground?—No, I was not thinking of that. I was thinking that in slippery and bad weather it is a very common thing for cases to come up to the hospital one after another in quick succession; and then a horse ambulance would not meet that as well as several hand ambulances all scattered about, which could all be in use at the same time, whereas horse or motor ambulances would have to be summoned to the cases *seriatim*, with a resulting great delay except in the first case.

By the Chairman.

1669. What happens when one of your ambulances is taken away? Who brings it back?—The police.

1670. Who is responsible for bringing it back?—I do not know that anyone is responsible for bringing it back, but in practice it always finds its way back immediately. In the great majority of cases, of course, it is used by the police.

1671. And they bring it back again?—Yes.

By The Earl of Stamford.

1672. How long would it take the Inspector to get round to the different ambulances?—It takes him a week.

1673. He is constantly engaged in it?—He is constantly engaged in it; I get a return from him every day of the ambulances he has visited. And whenever any ambulance is much stained or damaged I get a communication from the police, and I send him down the next day to clean it and put it in order. That is how I pick up so much incidental information about what goes on in the course of this work.

By the Chairman.

1674. You have one Inspector?—Yes.

EIGHTH DAY.

Friday, 12th July, 1907.

PRESENT:

SIR KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Honourable The EARL OF STAMFORD.

SIR WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

MR. A. L. DIXON (*Secretary*).

Mr. R. J. COLLIE, M.D. (Aberdeen), called in and examined.

By the Chairman.

1675. I think you are a Doctor of Medicine, Medical Examiner to the London County Council and Metropolitan Water Board, and you also superintend the First-Aid Instruction and other Medical Classes of Instruction under the County Council?—Yes.

1676. With regard to the question of the conveyance of persons injured in the streets and other accidents generally, I think your evidence is contained in the book of Evidence before the London County Council in 1902?—Yes, I gave evidence before that Committee.

1677. And you have paid some attention to the ambulance system in other towns?—Yes; I have visited Manchester and Liverpool.

1678. And Paris?—Yes.

1679. And you have paid special attention to the matter?—Yes, I have for some time.

1680. You have also, I think, written a book on "First Aid to the Injured"?—Yes; it is the text book that is used now. [*Handing in a copy.*]

1681. And that is now used by the Metropolitan Police?—Yes.

1682. You conduct their First Aid classes too?—I do not instruct them; I supervise them.

1683. When it is convenient to you I would very much like you to tell us what you think about those classes, and the extent to which the Metropolitan Police are instructed in First Aid?—If I may I will give that later.

1684. Will you take your own course and state what you wish to tell us about the system?—With regard to my visit to Liverpool I noticed that Captain Nott-Bower, in giving his evidence the other day, asked you to accept my description in the Loudon County Council Report of the system there.

I consider the present arrangement for the removal of street casualties in London deplorably insufficient, because of the total absence of any organisation worthy of the name. It is well known that a great proportion of the accidents as they now occur are removed in wholly inadequate conveyances, such as street cabs, hand barrows, etc., with the inevitable result that accidents of a comparatively trivial nature become much more serious before any sort of medical aid is rendered. There are many cases of complicated injuries, as, for instance, where a drunken man is the subject of a serious accident, such as a fracture, or a cut artery, or where a woman is badly injured in the street and bleeding; these require not only immediate treatment, but treatment which cannot possibly be carried out with any degree of efficiency or decorum under the public gaze, and where a medical man, when called to a case of accident or sudden illness in the street, is unable while watched by a crowd to make a satisfactory examination or diagnosis. This applies specially in the case of a man who may be partly undressed, or in the case of a woman injured and bleeding. Many cases are obscure, and are so often associated with an apparently trivial and easily-recognised injury that prompt and skilled attendance is essential to prevent the smaller to be taken for the more serious injury, the effect of which might be disastrous.

1685. What, in your opinion, is the matter of the first importance? Is it to get skilled attendance on the spot where the accident happens, to be applied if necessary at once to the person before he is taken to the hospital?—I attach very great importance to that.

1685A. It is a question raised by a great many witnesses whether a skilled medical attendant ought to be brought to the spot?—No, I do not think that bringing medical aid to the spot is of the first importance, but bringing aid is. I shall explain later that I think a trained ambulance worker and a good method of conveyance by van or wagon is the absolute best.

1686. Then do you carry it to this extent, that you would have that done in every case of any accident?—I think so, for this reason, that the ordinary police constable is not, in my opinion, able to judge what sort of cases should be conveyed and what should not.

1687. Would you put it quite generally that a policeman must exercise no discretion at all, that he must always summon the ambulance?—I should say yes, in any case where a man cannot walk, where he has obviously been injured.

1688. Take the case of a broken arm where the injured person can walk?—There is a considerable amount of shock with a broken arm, and I think a man or woman with a broken arm ought to be taken care of and taken to the hospital or home by an ambulance.

1689. What seems to be one of the inherent difficulties in this enquiry is what amount of discretion ought the police constable to exercise, or ought he to exercise any at all. Supposing there is the choice of different modes of conveyance, say an ambulance, or a wheeled litter, or a stretcher which is not wheeled but simply carried, ought the police constable to exercise any discretion as to which of those modes he adopts, or must he in every case send for the ambulance? In the first place, ought he, in a proper system, to have an ambulance which he can summon?—Certainly.

1690. And ought he to summon it?—Certainly; he practically should not be asked to use his judgment in the matter.

1691. You do not believe that a police constable can be sufficiently trained to exercise a judgment even as to a choice of conveyance to hospital?—I think he neither can be trained sufficiently nor has he got sufficient judgment. At this point, if you will allow me, I will give you a very good illustration of a case which happened in Charing Cross Hospital; it will show clearly how difficult it is, even for a medical student, to exercise his judgment in a matter of that sort. This appeared in a morning paper some time ago: "At Westminster, yesterday, Mr. Troutbeck held an inquest on the body of Alfred Cheriton, a house-breaker or 'puller-down,' of Tufton Street, Westminster, who died in Charing Cross Hospital. Whilst he was working on the demolition of the old 'United Universities Club,' at the corner of Suffolk Street, a brick dropped from the top of the building and struck the deceased man on the head. He walked home after having his head bandaged at Charing Cross Hospital, and there became unconscious. He was removed in a cab to the hospital again, and there he died. A medical student at Charing Cross Hospital said that he saw Cheriton when he first came to the

Hospital. He said he had been struck on the head with a brick, and the witness found a clean cut wound an inch long, which he stitched and bandaged. The man was not seen by a fully qualified medical man, as witness did not think it was a serious case. He did not think it necessary that he should be kept under observation for the development of the symptoms. The house surgeon on duty said that Cheriton was unconscious when admitted" (that is the second time, of course), "and that an operation had to be performed for compression of the brain, due to hæmorrhage. The man did not recover, and died on the following Thursday. A post-mortem examination revealed a small fissure in the skull, which had resulted in internal bleeding. It was quite possible that the case might not have appeared to be a serious one when it was seen by the dresser. Commenting on the fact that the man was removed to hospital in a cab, the Coroner said that 'the absence of horsed ambulances was one of the scandals of London.'" That is a case in point.

1692. In that case probably anyone on the spot would have known that the man had been injured by a brick falling from a considerable height?—Yes.

1693. At all events, it was a wound on the head?—Yes.

1694. And I suppose the instructions to the police would be that where there was a wound of that kind, although there might be no very grave symptoms apparent to an ordinary person, yet a wound caused in that way was a proper case for the best mode of conveyance available?—Yes.

1695. Could not a policeman be instructed to that extent?—Yes, he could be. But I think in this particular case that man would not have been sent away had an ambulance been summoned, and had a trained ambulance man been in attendance, and had this poor fellow been taken up to the hospital in an ambulance.

1696. That is clearly a case for the best mode of conveyance to be got?—Yes, and I think the chances are that the hall porter would have insisted that a mere tyro did not treat him, but that the house surgeon saw the case.

1697. That is another point. But, however, that is a case where even a person more or less skilled goes wrong?—Yes, but it is an illustration of what I said, namely, how very small accidents are very often very much more serious than the man in the street thinks.

1698. Especially in cases of injury to the head?—Especially to the head. The police and local medical men, called to street accidents, usually find themselves without the necessary appliances for even rendering efficient First Aid, not to mention more important treatment. The hand ambulances at present in vogue are made of canvas, and are not aseptic. Moreover, they are used for drunken people and dead bodies, as well as those suffering from a severe injury. A rapid-transit ambulance service, with horse or motor ambulances able to be summoned by telephone, and brought without delay to the scene of an accident, with the necessary skilled attendant and appliances, would overcome all these drawbacks. Probably about 20 or 25 good motor ambulances would be enough to cater for 120 square miles of the County of London. With regard to hand litters, the present approved method of constructing a hand litter is entirely wrong from a surgical point of view.

1699. Are you speaking now of the Bischoffsheim and police ambulances?—Yes.

1700. The wheeled ambulances?—Yes; and the hand, inasmuch as it is made of absorbent material which cannot possibly be kept aseptic under any circumstances; for instance, discharges of blood and septic material are found in practice to soak into the material, and I have no hesitation in saying, as a surgeon, that a litter so soiled ought *not* to be used for a surgical injury without efficient sterilization.

1701. We discussed this a good deal with the Secretary of the Bischoffsheim Ambulance Service on the last occasion when we took evidence. His evidence was not quite consistent with that view. He says that their ambulances are thoroughly clean?—Is he a medical man?

1702. No, he is not a medical man; but he is also secretary of a hospital, and he has a great deal of experience. I only tell you what he said?—It is very difficult for anyone who is not a medical man to understand a sepsis in surgical cases.

1703. Would you take it that your view is the general view of medical men?—Absolutely.

1704. I do not mean to say, of course, as to the principle that you must guard against infection of that kind as much as possible. But as to the state of the ambulances, it is not entirely a medical question?—I think it is a medical point whether or not a special material can or cannot be made aseptic.

1705. But that hardly touches the question, does it, as between a horse and a hand ambulance? The hand ambulances might be improved, supposing they ought not to be altogether dispensed with?—Yes, they might be improved, certainly. It is obvious that a hand litter which has to be carried through the streets must be more elaborate in design than the simple stretcher such as is used in the horsed or motor ambulances of large cities; I refer to the hood, cover, &c. If my suggestion of a horse or motor ambulance were adopted comparatively few stretchers would be required. Were it thought advisable to organise a system of ambulance for London with hand ambulances alone, a very great number of these would be necessary, with the inevitable increased possibilities of septic infection, whereas the vastly diminished number of the more simple type of stretcher that would be necessary for a motor or horsed ambulance would, as a matter of course, be kept aseptic by those who had charge of the van. It is certainly much easier to construct a suitable stretcher for a covered vehicle than one suitable for conveyance by hand. What is in my mind is this: If you have a covered van with a simple stretcher in it made of some waterproof material, and you have to take up a man who is bleeding and perhaps filthy dirty and put him in this stretcher and carry him in the wagon, it is more likely that in this simple stretcher he would be kept clean surgically than in a stretcher which has to go through the streets and is simply put in a box at the corner of the street and taken out perhaps for the very next case which comes along.

1706. That must depend upon the efficiency of the system of inspection?—Yes, but I am talking of the system as it is.

1707. What was in my mind was how far that argument bears upon the question of the continued use or disuse of the wheeled ambulance, whether it might not be possible to remedy any evil that there might be in that case by an improved system of inspection, and in the management of them?—I think that if you have no motor ambulance you are bound to have a very large number of hand litters. There is no question that the hand litters are very liable to being made septic. If you have motors you diminish the number of hand ambulances and you must therefore diminish your chances of sepsis.

1708. Do you contemplate getting rid of hand ambulances altogether?—I think you would find if you had a properly organised motor ambulance service in London that what would happen here would be what has happened in Manchester and Liverpool—these hand ambulances are gradually being pushed out, inasmuch as the others are much more effectual.

1709. It must be a gradual process, a process of natural selection rather?—Yes, I think it would very soon prove itself to be so.

1710. Take the case of a great number of accidents occurring on frosty nights when the streets are slippery, and being brought into the hospitals in batches, as we are told. Do you think that a system of horse ambulances or motor ambulances could cope with that?—Yes, I think they would because they go very rapidly both to and from, with the proper appliances brought to the side of the patient, as they would be in a properly equipped ambulance van. Surgical dressings and appropriate treatment could be afforded over an area which could not possibly be arranged for by a police constable with an ordinary hand litter. For instance, it is obvious that a police constable cannot be provided, at all times, with bandages, antiseptic dressings, and waterproof sheetings, which are so essential in many of the severer accidents. Under the present arrangement there is not, indeed it is difficult to see how there can be, any attempt at surgical cleanliness in the existing ambulances (either the Bischoffsheim or police hand ambulances) used, as the latter at any rate are, for all sorts of cases other than accidents.

1711. You say, it cannot be, I do not quite follow you. It may be wrong at present, but why should not that condition be improved and their use restricted to accident cases?—Perhaps I ought not to say it cannot. I do not say it is a physical impossibility. I was thinking of the probabilities from the administrative point of view.

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I do not think it is probable that they would be kept aseptic.

1712. Why not?—I cannot conceive of any conveyance being kept surgically clean which is kept in an out-house to which anyone has access. For instance, the other day in Lincoln's Inn I opened the box and looked at one of the new police ambulances to which, of course, anyone has access. I did not happen to touch it, but supposing I had been a loafer, and touched it, it would have made the thing septic for the next case. A man breaks his leg, this is brought against it, and you get septic infection straight away. A single instance will help the Committee to appreciate the value of careful handling of street accidents. A patient of mine was injured in the street. He had a simple fracture of his leg. He was put into a cab, the ends of the bone were forced through the skin, and the fracture was made what is technically known as compound. Instead of being ill, as he would have been in the ordinary course, for a period of seven or eight weeks, he was wholly incapacitated for work for a period extending over six months. This, of course, is no isolated instance, but it serves to illustrate the fact that, from a working man's point of view, the economic advantages of a properly equipped ambulance service for London would be an immense boon to most of the working class, for many of whom prolonged sickness often means semi-starvation and misery.

1713. There, again, is it not a tolerably simple rule that an injury to the leg, a broken leg for instance, requires the best mode of conveyance, and ought not to be sent in a cab?—Yes, that is so; but this man was put in a cab.

I see no reason why a properly organised ambulance system, with a central bureau, connected by a complete system of telephones, would not, at a very short period of time, supply skilled and efficient attendance almost in any part of the Metropolis. I understand that evidence has been given by a former witness to the effect that a hand litter system for London is all that is necessary. With this I take leave emphatically and very earnestly to differ *in toto* for the following reasons:—

(1.) The geographical distribution of London's hospitals does not lend itself to an arrangement of this sort, except in a few areas, and even these can be better catered for by rapid-transit than by hand ambulances.

1714. What area are you speaking of there—the more crowded parts?—Yes; the more crowded parts.

1715. Because the hospitals are, in point of distance, closer in the more crowded parts?—Yes.

1716. We have had statistics as to the distances?—Yes; I mean in the immediate neighbourhood.

1717. That is one of the most important questions. Whether the advantages of the horse or motor ambulance are not more necessary in the less crowded parts, where the distances are greater, than they are in the more crowded parts where the distances are less, and where the hand ambulance is more or less at hand, and always available?—Against that there is the extreme rapidity with which a motor ambulance can take a patient and be ready for the next, compared with the hand litter.

1718. Is that the case in the most crowded parts of London, because there is some evidence on both sides on that point?—I think it stands to reason that the motor ambulance will go twice as fast.

1719. It depends on how soon you get it?—If you have a system of telephones I can see no difference in the application of the motor ambulance service from the Fire Brigade service.

1720. Except that there are a great many more accidents than there are fires?—Yes; but the distance to go and the time occupied on arrival is infinitely shorter in the case of an accident than in the case of a fire.

1721. The sort of case that I want you to consider is where there are a number of accidents happening at the same time, it may be owing to some special cause, the state of the streets, or anything else. Can you say positively that you think accidents of that class would be taken from the place where the accident happens, and from the moment the accident happens, to the hospital more quickly by the motor or horse ambulance than by the present method?—I do think so.

1722. That is merely from the point of quickness?—Yes. I believe, for instance, that if we had had a proper ambulance service in London at the time of the Highgate disaster, and a central bureau, you would have had within 20 minutes, at the outside, five, six, ten, even fifteen ambulances, and had the cases all taken away in half-an-hour.

1723. In a case like the Highgate disaster, probably they would have to go a considerable distance?—Yes; they were taken on shutters.

By Sir William Collins.

1724. I was going to ask you, were hand ambulances used on that particular occasion?—I did not pay particular attention to that. But what bulked most in my mind, I remember, was reading that they were taken in cabs, on shutters, in donkey carts, and all sorts of things.

(1—cont.) Further, although some of the Hospitals are situated in the districts where accidents are most likely to occur, it must not be forgotten that with the rapidly extending motor bus and tramway developments, the dangerous areas are being almost daily extended to the furthest outskirts of the Metropolitan area.

(2.) As I have mentioned before, hand litters cannot be kept sufficiently aseptic.

(3.) The number required to produce anything approaching to an adequate service for London would be so great that the cost of maintaining and supervising would be greater than that of a rapid motor service such as I advocate. It must not be forgotten that, although the number of these constables appear as employees in the ambulance service, the constabulary force would eventually have to be considerably augmented to allow of the necessary number of constables to attend something like 20,000 accidents, necessitating absence from their ordinary duties on their beat.

(4.) With the hand ambulance service, it is impossible to ensure the provision of the necessary appliances for dealing with street casualties, whereas in a properly equipped ambulance wagon these are ample, and ready at hand.

(5.) There is no question that, although a certain proportion of the Metropolitan Police Force are capable of qualifying to obtain a certificate on First Aid to the injured, I have been unable to shut my eyes to the fact that a very large number of them have attended the classes under my care more from a sense of duty and an idea of assisting themselves in the question of promotion, than of an unselfish desire to be of real service in emergencies. Further, many of them have not sufficient capacity to use sound judgment in deciding important questions where serious accidents are involved.

I have something more to say about that which I shall be glad to give you later.

(6.) In many cases the presence of a skilled attendant at the scene of an accident must be considered essential to deal with such cases. In the majority of rapid transit street ambulance services the skilled attendant accompanies the ambulance. The skilled attendant may be either a fully qualified medical man, a medical student, or some one who has been specially trained in ambulance work; it is, of course, only a question of skill that has to be decided. Where necessary, in many parts, it would be easy to arrange for a district medical man to be called.

(7.) In the mind of the public the police litter is so universally associated with drunken and dirty people, that, I am informed, many absolutely refuse to use it, though suffering from a bad injury.

(8.) It is obvious that where a hand ambulance is used there can be nothing approaching to privacy in the necessary preliminary examination of a patient of either sex, whereas with an easily summoned rapidly moving ambulance van such examinations can be conducted, or First Aid treatment carried out, in the comparative seclusion of the ambulance wagon. I believe, and I can quite understand that there is a prejudice against entering a hand ambulance; when one thinks of the exposed position, the slow method of progress, the possibility of a crowd, and the agonising time spent in being marched slowly through a crowded city, one can quite appreciate that even in serious accidents the public very naturally prefer the quicker although more dangerous method of rapid transit in a cab.

It has been said that London is so crowded that a hand ambulance has an advantage over a horse or motor drawn vehicle. My own experience, from a very extensive knowledge of all the crowded parts of London, leads me to take an entirely opposite view.

It is my duty to visit at their homes patients suffering accidents alleged to have been caused by the London County Council Tramways. On one of my rounds, knowing that I would have to pass through some of the busiest parts of the Metropolis, I noted exactly the length of time it took. After deducting the time spent in conducting the actual examinations, the time actually spent on the road, driving in a ten-horse power motor through the following streets, was less than an hour. The route was as follows: Highbury Station (I noted the time there), Balls Pond Road, Mare Street, Hackney Road, Old Street, Clerkenwell Road, Farringdon Road, Snow Hill, Holborn, Holborn Viaduct, Oxford Street, Bayswater Road, a distance of eight-and-a-half miles, passing at one of the busiest times of the day, about six o'clock, through Islington, Hackney, Bethnal Green, Shoreditch, Finsbury, City, Holborn, Marylebone and Paddington. In towns where a regular ambulance service has been established, the public have been taught to give way for an ambulance wagon in much the same way as is well known they do for fire appliances. I had a somewhat unique experience which I would like to relate to the Committee on this particular matter. I have just shown you how comparatively quickly one can go in a motor. My point now is that you can go very much quicker if the traffic is held up. I was driving one day in the Marylebone Road when I overtook a fire engine of the London Fire Brigade going badly. The second officer, whom I knew, called out to me to stop, and asked me if I would take him on to the fire. He was in uniform and sat beside me in front while I drove, he and one of his men (who sat behind) gave the fireman's call from time to time, and it was perfectly surprising the rapidity with which we went down the Harrow Road, Westbourne Grove, Notting Dale and nearly to Willesden. Thus I am able to give you an experience in the traffic, and also when the traffic is held up, and my point is that one can go so much quicker when the traffic is held up. The special uniform warned the public, and this would have a like effect in a motor ambulance service.

By the Chairman.

1725. That, I think, exhausts the points on which you proposed to give evidence. Is there any further subject on which you desire to speak?—Since writing the *précis* of my remarks which I desired to make to the Committee, I have had the advantage of reading the evidence of Captain Nott-Bower, and that of Dr. A. James, and I would like to say that I am in accord with every statement made by these gentlemen with only one exception. Dr. James seems to think that a surgeon ought in every instance to accompany the ambulance wagon, whereas I believe that a trained ambulance attendant would be more efficient. I have given much consideration to this question, and I have thought of it for years, as to who would be the best ambulance assistant, provided that a motor or horsed ambulance were adopted.

The choice lies between three:—

- (1) The ordinary police constable.
- (2) The young surgeon.
- (3) The specially trained ambulance assistant.

The ordinary police constable, to my mind, is unsuitable. He has (as a rule) certainly not more than the average intelligence of men of his class, and I take it that the class of men from whom police constables are drawn is the farm servant and such like—men of very limited education. My experience of these constables is that many of them are neither apt to learn, nor that they ever attain any real efficiency. Out of 1,943 who last year submitted themselves for examination in First Aid, no less than 461 or over 23 per cent. failed. These constables had six lectures by highly trained and qualified medical men, accustomed to lecture to young people of 16 and 17 years of age and make First Aid clear to them. Every lecture was reinforced at a week's interval by a tutorial lecture from one of the Council's trained elementary school teachers. They had, therefore, twelve lectures upon a comparatively simple subject, a very large part of which is practical. The standard of examination is not high, yet 461 failed. I notice that one witness (I think Mr. Thomas Bryant) stated that the ability to pass these examinations might to some extent be taken as a fair criterion of the intelligence of the constables, and I do not think this is an unfair way to look at it. If this were chosen as a standard, nearly one out of four has proved himself not sufficiently intelligent to render ordinary First Aid. By this standard, one out of every

four upon whom the Commissioner of Police now relies is inefficient so far as First Aid to the injured is concerned, unless, indeed, the men who failed have since qualified. Further, I see that it has been stated that it ought to be left to the police constable to decide whether to send the patient in one kind of ambulance or another. This is the point that you raised earlier in my examination. I believe that there are few circumstances in which a sounder judgment is required than when one is suddenly confronted with one of these terrible street casualties that occur in London, and yet it is seriously proposed to leave not only the medico-legal note taking and the First Aid treatment, but the decision as how best to remove the patient, to constables, whose intelligence and whose judgment I, at least, consider unequal to the task. Mr. Bryant said that one of the most important things that a policeman had to do was to take notes.

1726. Can you give me the reference?—Yes, in the memorandum which he handed in I remember his saying that he thought it was right that the constable should take notes.

1727. This, no doubt, is what you refer to (*Appendix XIV. (ii.)*): "A policeman, when called to a case of accident, should take charge of it, and write in his book as good an account as he can obtain of the method of production of the injury, with its seat, together with the other particulars of the occurrence." For instance, in the case you gave just now, he would say, "This man was injured by a brick falling from the United Universities Club, and he was injured in the head." He would not be expected to write in his note book a medical description of the case or the probable injury: he would have to take account of the "other particulars of the occurrence"—what more simple thing can you have?—There is no reason why he should not do that, except that he cannot be doing it and attending to the patient at the same time.

1728. Nobody suggests that the policeman should attend to the patient further than to do what is absolutely necessary in the first instance. I do not quite see the point of your criticism. That is an instruction to the policeman that he is to write how the accident happened and all he knows about it. That is part of his ordinary duty. He has to take a note of everything of that sort?—Quite so. The point is, that if you had a trained ambulance attendant whose business it was to look after the patient alone, and not to take notes of the accident for his superior officers, the patient, who is after all the first consideration, would fare better at the hands of one whose whole soul and time were devoted to looking after him than at the hands of one who has the divided duty of looking after the patient and taking notes.

1729. In other words, if he had a man with medical knowledge, or an advanced student, or a surgeon, he would be better attended to than by a policeman?—That is my point.

1730. That goes without saying, I should think. The question is, What is practicable? What is the best practical method of dealing with these cases when they occur? Can you reasonably expect to have in any great number of cases a skilled medical attendant brought to the scene of the accident? Nobody disputes that it would be better if you could, but the question is, Can you?—I see no difficulty in it.

1731. Consider the number of accidents. There are 11,000 accidents and cases of illness to be dealt with by policemen in a year. That means 11,000 skilled persons to be sent, if the ideal system is carried out, to the scene of the accident—not 11,000 different persons, the same person may be sent a great many times?—I think you have had evidence before this Committee that in a very large number of these accidents the patients walked to the hospital.

1732. Yes, a good many. At all events there would be a very great number of skilled attendants to be sent?—There would be.

1733. I will not say 11,000, but let us take it by steps. An accident happens: a policeman, I think, by universal admission, is the first man on the spot, I mean the first man under any obligation?—Yes.

1734. He has to do his best?—Yes.

1735. The first question, to my mind, is, how far can he be trained to do what ought to be done on the spot—a question upon which your evidence will be most important? Of course, nobody would suggest that he should be given anything like medical skill, but the question is, how far can he be taught to do what is absolutely necessary—and what is absolutely necessary must be

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first of all appreciating, to some extent, what the nature, character and extent of the injury is, and then doing anything possible that ought to be done to stop bleeding or anything of that kind?—Yes, that is so, and I think later on I touch upon that point. With regard to the second choice—the young surgeon—I think this is unnecessary. There are very few occasions in which anything beyond genuine intelligent First Aid requires to be applied where a rapidly moving horsed or motor ambulance is in requisition, and I can foresee grave difficulties in keeping up a constant supply of either reliable medical students or well qualified young surgeons, nor do I think they would really do the work better than a specially trained ambulance assistant.

1736. Your view would be to send in each case with the ambulance an assistant, not necessarily a surgeon or advanced medical student?—That is so. There remains, therefore, the third choice—the specially trained ambulance assistant. I am very strongly of opinion that if intelligent men were chosen and they were properly trained and kept qualified by lectures and practice classes given at repeated intervals, more especially if a condition of their continuance in the service was that they should pass an annual examination, a class of men could be procured and maintained that would be of infinite service, who would prove themselves superior to the not always quick-witted constable, or even the busy house surgeon, or his doubting understudy, the medical student. If I am asked why, holding these views, I continue to supervise the teaching classes of First Aid to the Injured, to the police, my answer is that the instruction they now obtain is infinitely better than none.

1737. You are speaking of police constables?—Yes. Of this I am quite sure, that with the material that is afforded us and the opportunities of instruction it is hopeless to expect that after one short course the men can ever be looked upon as sufficiently educated to act as *bonâ fide* ambulance attendants in a well organised motor or horsed ambulance system. I have heard it openly stated by a surgeon who is an authority on ambulance work that any one holding a certificate in First Aid to the Injured which is three years old, who has not reinforced his knowledge by attendance subsequently at lectures, is a fraud upon the public. I desire to state perfectly frankly that I believe that police constables who attend courses on First Aid to the Injured merely to please superior officers (because that is admitted), and who are not encouraged to obtain, and most of whom never obtain, a second or third course of instruction, are not men upon whom the State should reckon as a "very present help in time of trouble." I find that the number of police classes held during the past three sessions were 96, 89 and 85 respectively. Taking as an average 24 per class, the number instructed during the three sessions was 6,480. Out of 899 pupils (900 in round figures) 720 were examined for the first time, and only 136 for the second, and 44 for the third. In street accidents it is not so much elaborate First Aid that the patient requires, but what he does want is to be moved as quickly, as safely, and with as little interference as is possible, to either his own home or the nearest hospital.

1738. That everybody agrees with?—One or two witnesses have spoken of motor conveyances as if they were still in their elementary stage: my experience is that if a good type of motor is purchased, and above all, if an honest, reliable mechanic is employed, a motor vehicle is to be thoroughly depended upon.

I notice that a former witness has stated with regard to the London County Council syllabus, that the "police do not want all this, it would frighten a half-educated man."

1739. You are speaking of Mr. Bryant?—Yes. As this witness handed in a syllabus (*Appendix XIV.*) which he considered admirably suited to the police, I have taken occasion to go over it line by line with my own, that is the one used by the London County Council, and with one or two small exceptions I find it identical with that used by the Council, and of which I am the author. We give, in addition, instruction to the police on malingering epileptic and hysterical fits, and we all know that these occur very frequently in the street. Our lectures (*Appendix XIII.*) say a few words upon frost bite, vitriol throwing, how to lift helpless patients, a short account of the nervous system, how to treat lime in the eye, the proper management of clothes in a street accident, and the treatment of the best bed for an accident case. With these exceptions the courses are absolutely identical, except that Mr. Bryant describes muscles under organs of prehension, and has given instruction for the application of poultices. I have gone over my syllabus here and scored out all the

subjects found in Mr. Bryant's, and I find there is nothing left practically. It is true that the London County Council syllabus is much longer, but it is simply because I have gone into detail. For instance, where Mr. Bryant's syllabus mentions bleeding I have mentioned the different kinds of bleeding, so that the system of teaching shall be uniform.

1740. But, surely, your system is much fuller than the system suggested by Mr. Bryant. I mean that it is more advanced altogether?—No, it is not more advanced. It is true that Mr. Bryant's *looks* more elementary. Let me give an example. He says here: "The circulation of the blood—heart, arteries, veins, capillaries. Different methods of controlling loss of blood." What I say is: "Venous, capillary and arterial hæmorrhage—how to compress with tourniquet," and so forth. In fact, I have given the notes of the lectures in the syllabus, so that the teaching shall be absolutely uniform. Our syllabus contains no more than Mr. Bryant's (with the exception of the points I have named), yet we give the police twelve lectures, whereas Mr. Bryant's course consists of but six lectures. But it is not because there is more material that we give twelve lectures; it is to make sure that we get it into their minds. And if you examine my syllabus you will find that the second, fourth, sixth, eighth and tenth lecture—every second lecture—is really a repetition of the former one.

1741. I understood the effect of Mr. Bryant's evidence to be that although the London County Council syllabus is much more thorough-going and scientific than he would recommend, his is what he considered to be a sort of practical instruction, just such an amount of very elementary scientific knowledge as would be required for a person in the position of a policeman?—I thought so too until I compared the syllabuses and found them identical.

1742. No doubt so far as they go they are identical, but the only point is that it seemed to Mr. Bryant that the London County Council syllabus went much further and deeper than what he would contemplate as being fit for a policeman?—I do not think so. I do not think Mr. Bryant had an opportunity really of examining my syllabus.

1743. No, he just looked through it while sitting in that chair?—I thought so. The mere fact that he did not notice that there were double the number of lectures he suggests, showed that.

By Sir William Collins.

1744. Is your point that the London County Council syllabus is not more advanced or more extensive than that suggested by Mr. Bryant, but that it appears in greater and ampler detail than the skeleton outline furnished by him?—That is so, exactly.

By the Chairman.

1745. Is there anything else you wish to say?—If the Committee will allow me I should like very much to give you one or two more examples of cases of street accidents that I have come across in my reading, they are very few. This is a newspaper cutting: "At Lambeth, yesterday, Mr. John Troutbeck held an inquest on the body of Alice Maud Wood, 17, lately residing with her parents at 14, Camborne Road, Southfields, Wandsworth. It appeared that on Wednesday last she complained of severe pains in her chest. Towards midnight she became worse, and Dr. Miller, of Upper Richmond Road, was called. He found her in a state of collapse, and considering that the only chance of saving her life would be an early operation—acute peritonitis having developed—he advised her removal by conveyance to St. Thomas's Hospital. A cab could not be procured, but about 2 a.m. a laundry van was obtained, and she was driven the five miles to the hospital, where on arrival she was found to be dead. Dr. Miller said the Wandsworth Infirmary was within two miles of the girl's home, but the operation that was necessary was one of the most important known to the surgical world, and, having had experience at St. Thomas's Hospital, he felt that the longer distance would be more than counterbalanced by the beneficial results. In reply to the Coroner, his officer (Police-constable McKay) said a horse ambulance was kept at Wandsworth Infirmary, but a relieving officer's order was necessary before it could be used. Dr. Freyberger said that the peritonitis was due to internal ulcer breaking, and that death was due to heart failure under the complaint. The removal of the girl might have hastened her death. The Coroner said that it was astonishing that in a vast area like London, there should be no

recognised organised means for conveying such cases to the hospital. In the present case the girl was jolted in a laundry van over five or six miles of irregular roads, and it was hoped that such a state of things would not be allowed to continue. The Jury returned a verdict of 'Death from natural causes,' and added a rider expressing the opinion that there ought to be an immediate alteration in the imperfect arrangements for conveying patients to the hospitals by the provision of sufficient horse ambulances in each district."

1746. That raises a rather different question. That is a case of removal from her own home?—Yes.

1747. Is your evidence directed not only to street accidents, but to removal from the home?—No; it is directed entirely to street accidents. It was by accident really that I read that case, for it deals with the removal of a patient from her home, but I think that if for a moment you think of this poor girl having a punctured wound in the abdomen, say on the pavement outside her own door, the cases would be exactly parallel. The next case is this—also from a newspaper cutting: "The accident in the City yesterday emphasised the urgent need for a more efficient service. It took nearly a quarter of an hour to get the injured men from the scene of the accident to the hospital on the hand ambulances. Two of them were exposed to the public gaze, and all of them, despite the care exercised by the police, must have suffered great agony from the oscillation and jolting inseparable from the antiquated system."

1748. Where did that happen? Is that a recent case?—No; it is not recent. It was before the City motor ambulance was started. Then I have another case: "Yesterday, at Lambeth, a Coroner's jury returned a verdict of 'Accidental death' in the case of a 14-year-old boy named Glasspool, who died in St. Thomas's Hospital from internal injuries caused by being run over by a Great Eastern Railway van near his home in Arthur Road, Brixton. The boy was conveyed to the hospital in a cab; and the Coroner asked, 'Isn't there a horsed ambulance in Brixton?' His officer (Police-constable McKay) said the nearest was kept at Rochester Row."

1749. That is one of the old three?—That is one of the old three. "In fact, there were only three horsed ambulances for the whole of the Metropolitan Police Southern District. The Coroner: 'Oh! well, we must take care not to be injured out of reach of them.' (Laughter.) The officer said the ambulances cost £250 a year each to keep up; but if wired for they would be sent for a fee of 5s. to those who were not too poor to pay. The Coroner: 'Yes, and what is to be done while the 5s. is being raised?' This case' he went on 'was another illustration of the great blot in the administration of London in regard to the want of proper ambulances in urgent cases. He had to call attention to the matter some days ago, and he supposed it would only be by repeatedly calling public attention to the neglect of the provision that they could hope to see anything done.'" Then there is another: "An incident which occurred a few days ago in close vicinity to St. Thomas's Hospital shows once more how necessary is the organisation of some plan for the supply of an efficient ambulance service for the Metropolis. A woman met with an accident at the foot of Westminster Bridge, and the policeman who took charge of the case, being single-handed, asked a volunteer in uniform to go to the hospital for the ambulance. The volunteer, on arrival at the hospital, was informed by the porter that the ambulance could not go out unless a policeman came for it. I can only conceive that the porter must have been acting upon a mistaken impression of his instructions in refusing to allow the ambulance to go out under such circumstances; but at the same time it makes very clear the desirability of having ambulances placed, not only where they are instantly available in case of emergency, but in charge of persons who are prepared to take them instantly to the spot where they are required." My next instance is this:—"Dr. Waldo held an inquest yesterday at Southwark as to the death of Ernest Arthur Child, 46, of Elmhurst, Elmer's End, Beckenham, who was found in a dying condition on Plough Bridge, London Street, Rotherhithe, at 1.15 p.m. He was taken in a van to Guy's Hospital, but died immediately after admission. Medical evidence showed that death was due to apoplexy. The Coroner remarked that the absence of a proper ambulance in that district was to be regretted. A van like a Pickford's van was not a suitable conveyance to take a dying man to a hospital." They have no springs. Here is another instance:—"At Southwark, yesterday, Dr. Waldo held an inquest on the body of Arthur Lawford, 21, carman, of 25, Mill Stream Road,

Bermondsey. The evidence showed that he fell down stairs and fractured his spine." (I think this a terrible case.) "A police constable, who conveyed him to Guy's Hospital, said that there being no proper ambulance at the Bermondsey Police Station, he had to borrow a spring cart" (a fracture of the spine!) "on which he placed the deceased. Death took place on Wednesday last. The jury returned a verdict of 'Accidental death,' and the Coroner commented strongly on the want of a proper ambulance, urging that horse ambulances should be kept at London police stations." The next is the case of the death of a woman who was a printer's "taker-off." "The evidence showed that while Miss Eaton was at a machine, her skirt was dragged into the machinery and she was crushed, and that there were no guards about the machine. The Coroner commented on the girl being taken to the hospital in a cab, and deplored the lack of a horse ambulance, such as are in use in New York, Hamburg, and other large cities. The jury returned a verdict of 'death from accidental causes,' and added a rider that the employers should take greater care in future that such accidents could not occur." And this is the last. This is a letter to the papers written by a man in Fleet Street:—"On the Saturday before Bank Holiday, just as I was sitting down to luncheon in a Fleet Street restaurant, a crash in the street outside attracted my attention. On looking out of the window, I saw that an unfortunate young man had been thrown from a tradesman's tricycle-cart—apparently by collision with some heavier vehicle—with obviously serious results, as he lay helpless in the roadway until some bystanders carried him out of danger. What the precise nature of the injury may have been I have not been able to discover, as I have observed no reference to the accident in the Press. But the point which I desire to emphasise is this, that the delay in removing the injured man appeared to me to be quite inexcusable. I cannot commit myself to figures as to the actual time, but I can only say that, having finished a lunch over which I did not hurry, I was horror-struck on going out into the street to find the unhappy victim still lying on the pavement, closely surrounded by the inevitable crowd, and it was not until several more minutes had elapsed that one of the rickety hand-carts, which pass for ambulances in the chief city of the Empire, made its belated appearance." That is an anonymous letter—it is not much direct evidence or as important as the other instances, but I think it is of some importance.

By the Earl of Stamford.

1750. I think you mentioned that you had paid special visits to Manchester and Liverpool and Paris in order to investigate their methods there. May I ask how long ago those visits were paid?—In 1902.

1751. I should be glad to know what is your opinion of the ambulance service in Paris. Do you think there are any points upon which we can learn anything from the system pursued there?—The point that struck me most about it was that they always had the ambulance man. In their case they have, I think, a student, but they always carried someone with the wagon to the accident to render First Aid. I remember noticing that they went the length even of carrying oxygen.

1752. Did you notice the system of stretchers in Paris, what stretchers were used in the ambulances?—I really cannot tell you. It is so long ago.

1753. I happen to have noticed them myself, what Dr. Nachtel recommended, a wicker stretcher adapted to the form of the patient, and so on. You have not heard, I suppose, anything further of the system since your visit there?—No.

1754. You are aware, I suppose, of the action of a Paris crowd in the case of an accident in the streets. I understand they pick up the unfortunate man and bundle him off into a chemist's shop immediately.—Yes.

1755. You acknowledge that in London the police constable would be the first man on the spot, probably in every case, who would deal at all with the case?—Yes. I should like to say that I do not think a police constable should not render what aid he can, but in a properly organised ambulance service there ought to be someone come with a wagon who should take the case out of the constable's hands, and the sooner the better.

By the Chairman.

1756. You confine the duty of the police constable to seeing the man into the ambulance?—Yes.

Dr. R. J. Collie.

1757. Seeing the man into the hands of the attendant?—Yes, but I would not absolutely restrict them in the case of any obvious injury, for instance, in bleeding. We would still teach them First Aid, and they would have to apply it in an emergency until the ambulance came.

By the Earl of Stamford.

1758. It would be possible for a constable to carry some small appliances in his pocket which would be useful in cases of bleeding and aseptic treatment?—Yes.

1759. Would you lay any stress upon the seclusion of the patient inside the ambulance?—I would not lay quite as much stress upon it as I see has been laid by some witnesses, but I think that the earlier removal of the patient into the seclusion of the van is very important, because there are undoubtedly cases every now and then in which, especially with women, it would be a distinct advantage.

1760. Generally speaking, you would agree with some of the evidence which has been given that it is better that the treatment should be carried out in the hospital, and that there should be as little attempt at surgical treatment in the ambulance as possible?—Yes, that is my view.

By the Chairman.

1761. Then is it your view (as it is Mr. Bryant's) that there is more or less danger in that you might have more done than is really desirable in the ambulance, if you attempted too much?—I think so if you employed surgeons, but not if ambulance attendants, of whom I spoke, were engaged and supervised.

1762. If you attempted to bring the hospital to the patient?—I think that is impracticable.

By the Earl of Stamford.

1763. Have you considered the cost of supplying 25 motor ambulances?—No, I have not gone into that.

1764. Is it your opinion that the existing ambulances might be utilised to a greater extent than they are, for instance, those of the Metropolitan Asylums Board, that their use might be extended beyond what it is at present?—Personally, it may be only prejudice, I have a very strong feeling that the infectious diseases ambulances and the street ambulances ought to be absolutely and entirely distinct.

1765. It would be possible of course to keep them quite apart, even if they were under a single authority?—It would be, but I am not quite sure that the public would have the same confidence in such a system.

1766. I think at the present time it is the case that the attendants in non-infectious cases have a different uniform, and I think the ambulances are different in shape—those which take infectious cases and those which do not.

By Sir William Collins.

1767. Whether it be better to attempt to bring the hospital to the patient or to build up an efficient mode of First Aid on the part of the constable I suppose may be a matter of discussion; but the point I understand you to lay before us is that it is desirable to reduce, as much as possible, the period between the time of the serious accident occurring and the opportunity for skilled diagnosis and treatment being at the service of the patient?—That is so. That is quite my view.

1768. In Liverpool, where I understand you have made investigations, the horse ambulance service is the regular and accepted mode of transporting the injured to hospital?—Yes.

1769. Do you know whether it is their practice—we were told that it was, at any rate, formerly—to send someone with the ambulance from the hospital?—It was when I visited Liverpool. They sent, I think, a house surgeon.

1770. And were hand ambulances in use in Liverpool?—They did not speak of them then to me. I got an order to see their ambulance system, but they did not mention nor show me any hand ambulances.

1771. You have not heard of any proposal to revert to hand ambulances in Liverpool?—No. On the contrary, I understand that they have gradually stopped using them entirely.

1772. And what is the practice in Manchester?—In Manchester they have the system, that I have been

advocating, of a trained ambulance attendant. I remember that they turned out the ambulance to let me see how quickly they could do it, and it was under one minute.

By the Chairman.

1773. Not a medical student?—No; that is one advantage. If the attendant is a married man, his wife is sent when a message is received that a woman is injured.

By Sir William Collins.

1774. Do you know the experience of Belfast at all?—No.

1775. They have a somewhat similar practice there?—I believe they have.

1776. What is the relationship in Liverpool, of the ambulance service to the fire brigade?—They are all under the same system. The horses at one time take the fire engines to a fire, the next time the mounted constables use them, and at other times the ambulances. They are interchangeable.

1777. In your opinion, is there anything inherently difficult in the experience of London, which makes it impossible or undesirable to apply the system of Liverpool and Manchester to London?—I never could see why an ambulance service has not been grafted on (years and years ago) to the present excellent fire brigade service which we have in London. I can see no reason why it should not be so.

By the Chairman.

1778. Would you develop that a little further please?—You have got your stations chosen because they are in the busiest places for fires; you have got your call pillars, with an efficient electrical apparatus; you have got the whole force under splendid discipline, and why an ambulance wagon should not be kept at the side or in the same building to serve the ambulance service I fail to see. It seems to me the simplest thing possible. You have got the organisation practically at hand, and have only to graft the one on the other.

By Sir William Collins.

1779. In Liverpool is the same apparatus used for the telephone call in the case of a fire and the ambulance?—Yes.

1780. Are the horses used both for fire brigade and ambulance purposes?—That is so. Of course that must cut down the expenses very much.

1781. As regards the Memorandum on First Aid instruction which Mr. Bryant kindly put in, after he had been examined as a witness, I see that under the rules to be observed when a policeman is called to a case of injury, it is stated, "He is not called upon to diagnose the injury, but he is required to learn by inquiry, personal observation, and examination, what part of the body has been involved, and if there is any wound." (*Appendix XIV.*) Should I be right in thinking that in some cases, at any rate, ascertaining what part of the body is involved and whether there is any wound, would in itself be part of the diagnosis of the case?—It is the diagnosis. I read that, and I could not understand what Mr. Bryant means. Because if you are to make inquiry, and look and find out what the injury is, and where it is, that is diagnosis.

By the Chairman.

1782. Very limited diagnosis?—It is a limited diagnosis which would lead to a great deal more. If, for instance, a constable looks at an injured thigh, and sees the man's state, and thinks there is something wrong, and then he proceeds to do what Mr. Bryant suggests—to find out the locality, and so forth—surely that is diagnosing that the man has broken his thigh.

By Sir William Collins.

1783. Whether it be diagnosis or not, should I be right in thinking that it would be, at any rate, a crucial point as to determining the treatment?—Yes.

1784. And, as a rule, diagnosis should precede treatment?—Yes; undoubtedly.

1785. Then I see, under the heading "Wounds," lower down in Mr. Bryant's memorandum, he says, "The constable's duty is to avoid all manipulations, and to transport the injured person as safely as possible in an ambulance to where he is to be treated"; and further down, "If anything like serious bleeding be present he

should deal with it as he has been taught, and send for local surgical aid." The difficulty in my mind is to understand how the bleeding is to be dealt with while avoiding manipulation?—I do not like criticising the work of a man very much older than myself, but really I do not think that this suggested syllabus has been very seriously thought out.

1786. And later on, "In cases of fracture, should any bone be found, or suspected to be, broken, great care must be observed not to manipulate the part, but to bind the injured limb in a straight position upon a splint as soon as possible, to prevent movement during the transport of the patient to the hospital, infirmary, or home. In all cases of fracture of the hip, thigh, and leg, an ambulance is called for, so that the injured person should lie down. On no account must the patient be put in a cab or other such vehicle." In order to ascertain whether any bone be broken, or is suspected to be broken, surely some manipulation would be required and some diagnosis would be involved?—Certainly. How can you set a limb up in splints, even from a First Aid point of view, without manipulating it? He says on the one hand that you are not to manipulate, and on the other hand you are to put on temporary splints.

1787. Do you think that the treatment, and I will not call it diagnosis, but the knowledge involved is what can be reasonably expected from a constable?—Do you refer to cases like fractured bones, and so forth?

1788. With a view to carry out the instructions suggested by Mr. Bryant?—Might I trouble you to repeat that question?

1789. I was anxious to know how far you would be content with the constable's duty being limited to guarding the patient until the ambulance arrived and assisting in carefully lifting the patient into the ambulance; how far beyond that you would expect the policeman's duty to the injured person to go?—I think, with a properly organised ambulance service, if the policeman knew that he might reasonably expect an ambulance wagon within a short time, he ought to leave the case alone. He ought to protect it from the public, and see that there was plenty of air, and so forth. But, if London had, what all other great cities have, a properly organised ambulance service I would not recommend him to render First Aid—except in urgent cases—because it would be done very much better by the trained ambulance man when he arrives on the spot.

1790. That is your opinion, after supervising practically all the ambulance instruction work of the London County Council?—I have had 22 years' experience.

1791. I did not quite understand your point as to the relative advantage of the horsed or motor ambulance, and the hand stretcher, from the point of view of a sepsis. Am I right in thinking that it is because of the materials of which the three kinds of ambulances are constructed?—The material first and most important, and secondly, from the facilities that there would be in cleansing it, for after each case the ambulance would go back to its base; and thirdly, from the question of numbers, diminished chances of sepsis. If you have 500 litters you are much more likely to have sepsis than if you had 100. Therefore it is from these points of view: from the material; from the opportunities of cleansing—the probabilities of being properly cleansed; and from the actual numbers.

1792. Are any horsed or motor ambulances constructed internally of metal?—I have no knowledge. I see no reason why they should not be.

1793. Should the soft parts—the pillows, and so forth—be made, in your opinion, of destructible material or of material capable of being sterilized with boiling water?—I certainly think so.

1794. I understood you to object to the Metropolitan Asylums Board undertaking the work, on the grounds that you did not think that the Authority dealing with infectious diseases should be the authority for handling street accidents?—That is so.

1795. If it were put against that, that the personnel of the ambulances and the horses were altogether a separate institution, do you see any advantage in placing the service under the Metropolitan Asylums Board?—None. Do what you would there would be a suspicion in the mind of the public—perhaps an unthinking and ungrounded suspicion, perhaps after all not so very ungrounded. If I had a child removed from my house suffering from scarlet fever, and telephoned to the Asylums Board to remove it, and the next day had my wife brought home with a broken leg by the same Authority—true, in

a different coloured van—I would have an uncomfortable feeling that these two wagons came, or possibly came, from the same place, and that there might be a possibility of contagion. It may be unreasonable, but I think many people would have that fear.

1796. I suppose Liverpool has an advantage over London in that. Police and fire brigade and street ambulance service are part and parcel of one organisation?—Yes, that is so.

1797. In Liverpool is the ambulance service for infectious diseases also part of that organisation?—No.

By the Chairman.

1798. On this very important point of instruction of the Police in First Aid, I should like to read you part of one answer of Mr. Bryant to see whether you agree with it (*Referring to the last part of Mr. Bryant's reply to question 1402*). It was upon that that I founded my remarks?—I agree with that.

1799. That a reasonable capacity for, and efficiency in, First Aid work ought to be one test for admission to the Metropolitan Police Force?—I think so. You see the position is this. You get a raw country youth who comes up, he gets five or six lessons at Scotland Yard just before he goes out; very rightly they do not give the man a certificate for it; that is part of his initial training which he is forced to do. Then he may be 10, 15, or 20 years without any more instruction. The St. John Ambulance Association used to give a few lectures, and we used to give a few. Then the St. John Ambulance Association dropped out, and now the London County Council teaches the police First Aid. But it is not compulsory. Sir Edward Henry says that he would like them to go and they do go because he likes them to go. One of my examiners rang me up on the telephone and said: "What am I going to do. I have examined 20 constables and not one of them knows anything about it." I replied, "Pluck the lot." He replied, "It seems very hard." I answer, "You must fail them all, but how is it they know so little?" and the answer I got is, "I believe the men have been forced into the classes." Ambulance work of all things, if you do not do it with your heart and because you want to do it, is a very distasteful thing.

By Sir William Collins.

1800. Do you know of your own knowledge whether cases of broken legs are still taken to hospital in cabs by the police?—Yes, I have heard of cases recently. There is one thing I would like to make clear to you. First Aid to the Injured I always hold is a thing by itself. It is not minor surgery; it does not even merge into minor surgery. It is a thing that a layman may be able to say that he knows and he knows perfectly, because it is a definite limited thing. No surgeon can say that he knows his art perfectly because it is always advancing and changing. But First Aid is a definite limited thing. That is my reason for saying that I believe an intelligent man who is taught and who knows his limitations (that is a very great point), who has a full knowledge of the subject and yet also knows his limitations, is a safer man to trust in that van with the patient than your young house surgeon, or certainly than your constable.

By the Chairman.

1801. What you have just said is very much the impression that Mr. Bryant conveyed to my mind on that point.

By Sir William Collins.

1802. Can you ever expect the majority of the police to be educated up to that point?—I am perfectly sure that you cannot, from the material that you have to deal with. If you want a proper ambulance service, if you have wagons of any sort, the right thing to do, I feel very sure, is to have ambulance attendants, not medical men, and not to rely much on the constable.

By the Chairman.

1803. I quite follow your point that that is better than the police; but I do not quite see why you think the police are not capable of being brought up to that point. I am looking at it, perhaps, from rather a different point of view than yours, but I confess that that a little surprises me?—I think I can give you a very good reason. You are dealing with 16,000 men. In my system you would be dealing with 25 or 30 men, and these people would be doing nothing else.

Dr. R. J. Collie.

1804. I am not questioning your view that a trained attendant such as you contemplate would be a more efficient man for dealing with wounds than a policeman; but what I a little questioned, when you stated so clearly what were the limits of First Aid, was why a policeman, being a man at all events of average education and certainly a good deal of experience of the world, who has constantly to be exercising discretion every moment of his duty, is not a capable subject, and why he could not be brought up to the point which you indicate as being required for First Aid in the limited sense of the term?—There are three reasons for it. In the first place he would not have constant practice to keep him up to the mark, whereas the trained ambulance attendant would; secondly, he would not be chosen for his intelligence—he would be chosen for an ordinary police constable—while the man I speak of would be specially chosen as an intelligent person; and thirdly, the ambulance attendant would live on the premises. First Aid would be his daily life; whereas in the case of the constable, it is only a little part of it.

1805. I will read you this passage from Captain Nott-Bower's evidence (*Reading from question 1066*): "You cannot pick your ordinary police constable?—You cannot pick an ordinary police constable for an accident, whereas you can pick the limited number of men that you require for a horse ambulance?"—I am absolutely at one with that. I do not mean for a moment to deny that there are many men in the police who would make splendid ambulance attendants, but if you are going to take the whole of the police and say that any of them will do, I cannot agree.

1806. Will do for what? The point is, can you get better material than you have at present for dealing with an accident immediately it happens. You have not got your Surgeon or Medical Student there, and have not got even your Ambulance Attendant, but only the policeman whose duty it is to deal with it?—I think the constable is in his right place just now; but if you have a rapidly moving ambulance wagon and bring with it a trained attendant you will be a great deal better off.

Mr. HERBERT E. BATTEN, M.R.C.S., L.R.C.P., called in and examined.

By the Chairman.

1807. You are a member of the Royal College of Surgeons of England and you were Casualty House Surgeon at St. Mary's Hospital from January 1st to July 1st, 1907, a period of six months?—Yes.

1808. During that time you had to deal with about 2,500 accident cases?—Yes.

1809. Including about 500 street accidents?—Yes.

1810. And of those 500 nearly two-thirds were brought in by the police?—Yes.

1811. Out of the 500 street accidents, 350 were brought in by the police; and of the 2,500 cases, including street accidents, 221 were detained in hospital, 97 of which were brought in by the police?—Yes. Those figures are not quite accurate; they are approximate. I think they might be one or two out.

1812. What is your experience with regard to cases brought in by the police?—In the cases brought by the police, the First Aid is generally efficient, and the selection of cases which were brought in ambulances was good.

1813. That is to say, of cases brought in different ways?—Yes; what they ought to bring with an ambulance they generally brought with an ambulance.

1814. What ambulances would those be?—Practically always either the hand litter in the street or the police ambulance from the police station. I have never seen a case where a doctor was necessary with the ambulance. In fact, if I might elaborate that a little more, I think probably it would do more harm than good, because I think that when a case is seen it must necessarily be seen first by someone—generally a police constable—who renders First Aid, according to his ability, and if you have a skilled attendant, student, or medical man coming with the ambulance, it necessarily means three examinations for that poor patient, when, I think, two are quite sufficient; and if the hospital could be brought to the patient one would be all that is necessary, but I do not think that is practicable. I remember that the Civil Surgeons who went out to the South African War told me that when they put on the ordinary field dressing at the Front, and did not trouble to wash the wound or do anything else before they sent the patients down to the Base, those were the cases which did not go septic, but that those which they washed with small quantities of antiseptic solutions went wrong. The probability was that they washed more into the wound than they washed out of it. In the same way, perhaps, when you meet with a case in the street, if it is simply wrapped up to prevent anything more getting into it, and is taken to hospital where full treatment can be carried out, I think that is the ideal thing to do. Of course, the sooner a patient gets to a hospital the better; but it is far better to bring him safely than to bring him quickly.

1815. What I particularly want to get is your own experience as to the condition of the patients whom you actually saw yourself?—Generally they were well brought, and I do not think that any of them got septic

from the Ambulance. Now and then cases would come into the hospital not so well brought, some by the police, but generally by private individuals.

1816. Are a good many cases brought by cab?—Yes, a good many, especially if they are not brought by a policeman.

1817. I mean cases which ought not to have been brought in a cab?—Certainly.

1818. Have many cases of broken legs been brought in a cab?—Yes, and cases even of broken thighs have been brought in cabs. I remember distinctly a woman being brought in a cab with a broken thigh which was almost compound through being brought in that way.

1819. Was that a case which was brought by the police?—No; that was a case which was brought by a private individual. If they had waited for the police the policeman would have rendered First Aid and brought the case in an ambulance, I am certain.

1820. Take the case you have just mentioned, of a woman with a broken thigh, what would you expect a policeman to do in that case?—The policeman would simply take the leg and bind it to a splint; he would not even find out whether it was broken. He would suspect a broken leg, and he would simply bind it up and bring the case to the hospital, and leave us to find out whether it was broken, and to do the manipulation.

1821. Would you feel fairly safe, from your experience at St. Mary's Hospital, that the policeman would not bring a case like that in a cab?—I have never seen a case like that brought by a policeman in a cab. I have seen a fractured leg case brought in a cab, which the policeman thought was a sprained ankle, but I have not seen anything like a broken thigh or a badly broken leg brought in such a way.

1822. You have had six months' experience at St. Mary's, and what we want to learn from you is what the evils are, so far as they came under your notice?—The evils are generally with cases brought in by the public—cases other than those brought in by the police.

1823. I suppose the public really do not quite know what to do with a case unless a policeman comes along, and their first idea is to send it off in a cab?—Yes, that is the great idea—to get him out of the way.

1824. And it would be very desirable, no doubt, to get into the public mind the idea of a better system?—I think that is a matter which should be brought to the public notice more than it is at the present time.

1825. That, I think, is your experience, that there is a distinct evil in that the public do not appreciate the importance of selecting the vehicle in which patients should be brought to the hospital?—Exactly; they seem to think that a cab will soon be there, and it will be all right.

1826. Have you seen many instances of ignorant treatment on the part of the police—treatment which has really been injurious?—I have seen some cases. I consider the tourniquet is sometimes used unnecessarily. I remember very well the case—not a police case—of a tourniquet being applied to a wound in the arm,

where a man has got paralysis, probably for life, and where there was no need for a tourniquet at all. That is a thing which I think in First Aid lectures is not taught sufficiently. They seem to teach them that wherever there is bleeding, if it is red to put the tourniquet on above the wound, and if it is black to put the tourniquet on below, but that is not sufficient. In many cases the bleeding would be stopped by just putting a bandage over the part, and that should be the first thing to do. Then, of course, the hand ambulances have a disadvantage in its not being possible to watch the patient, as the patient is covered up. I remember, for instance, a case where a man who had attempted suicide, and had a cut throat, had a small knife in his pocket which he took out and stabbed himself, and it was not from the cut throat but from the stabs that he eventually died.

1827. He stabbed himself on the hand ambulance?—Yes, because he was covered up. If he had been open to inspection by anybody, it does not matter whom, that would not have happened. I do not see any objection to the use of the four-wheeled cab in cases of cutaneous wounds or lesions of the arms, to a certain extent.

1828. How about a broken arm?—I should think the patient would be more comfortable sitting up than lying down. I do not think it would make any difference.

1829. Would you leave the policeman to judge as to whether he should send for an ambulance, supposing that an ambulance were available, or allow the case to go in a cab, according to the part of the body which was apparently injured?—I think so. If he followed those rules which Mr. Bryant has laid down, which I may say seem to me to be very simple indeed and quite sufficient, he would be able to do all that is necessary. It is not very much discretion that is required, and I am sure that the police constables who come to me are very capable men, if they are not educated: I do not know much about their education, I have not gone into that, but they always tell me the history of the accident in a very clear way and generally quite sufficiently for what I want to know. Most of my cases are within an easy distance of a hospital, a quarter to half-a-mile, but some come from long distances, and then, perhaps, a horse ambulance would be useful.

1830. Does the information which is given you by the police constable enable you to know how long an interval has elapsed between the accident and the patient coming to the hospital?—Yes, they generally tell me. I have not tabulated it at all.

1831. But what is your impression with regard to the time taken?—I should think that the average time for near cases would be 20 minutes, and 40 minutes for cases that come from perhaps two miles.

1832. Do they come to you from as far as that?—Yes, we have some come two miles, and then, of course, we have cases from outlying districts which come in by train, from Southall, for example. I do not think that the train would be any worse than the horse ambulance for that, although some of the patients seem to hang about a long time before they get up to the hospital.

1833. Then they have to get from the station to the hospital?—There is always an ambulance at Paddington Station and the Railway Company are always very willing to lend it, and the Railway First Aid people are very efficient—they seem to take great pride in it.

1834. The Railway Company keep an ambulance in readiness at the station?—Yes, and they take great pride in keeping their men up to a state of efficiency.

1835. Do many cases come to you in Railway ambulances?—Probably four or five in that series of cases (*Appendix I, page 54*) that I have given you came in a Railway ambulance. As regards the comfort of the hand ambulance, patients never complain of them. I notice several of the witnesses who have been before you have said that people are always afraid of going in them. I must say that that has not been my experience with people; they seem to think that they are very comfortable. I have not known a case where people have refused to go in the ambulance. As long as the patient is at rest in the ambulance, and the injured part has been splinted or kept at rest in another way, I do not think it makes any difference whether it takes twenty minutes or three-quarters of an hour.

1836. What is your experience as to the condition of the ambulances?—I have never seen a dirty one,—I mean, of course, grossly dirty. You cannot imagine that an ambulance will be aseptic, of course, but you never see gross dirt on an ambulance. Sometimes they

are a little splashed with mud, and sometimes I have seen the blood of the present patient on it, but I have never seen any old blood or anything like that.

1837. Are they kept clean?—Yes, so far as I know they are kept clean, and I have seen a great many of them.

1838. How about the material of which they are made?—They are made of a varnished sort of canvas which is very easily cleaned, and after all, it does not make much difference whether the ambulance is over-clean or not, because you ought, I think, to allow that the wounds will be covered up by some material before they are put on the ambulance, and the man's clothes, and the road, and the mud about, will be every bit as septic as the ambulances will be if they are kept properly clean and generally supervised.

1839. What is your experience with regard to several accidents happening at the same time—have you frequently many cases coming into hospital at once?—Yes, I have seen four ambulances outside together, and I have often seen three. Accidents always have, I may say, a way of coming in together.

1840. Would that be owing to the particular conditions of the streets, for instance?—Yes. Now and then you get frost and slippery weather which will bring in a tremendous lot of accidents all together.

1841. Have you ever had to deal with a number of grave cases such as the Highgate case?—I do not remember the Highgate case.

1842. It was the case of a runaway tramcar?—I do not remember it. I have had four or five serious cases in together. One day last winter we had 16 fractures nearly at the same time, and all the available trolleys in the place were in use. There had been a severe frost, and then it had thawed and frozen again.

1843. At what time of the day do they generally come?—I do not think there is much difference. A good many come in the morning, not so many in the afternoon, as a rule, and we become busy again in the evening.

1844. I suppose on a winter afternoon, when the streets are both crowded and dark, there would be a good many cases?—Yes, I have seen a lot come in then.

1845. I do not know whether you have given any general consideration to the question of the comparative merits or demerits of the hand ambulance and the horse or motor ambulance?—I think that for short distances the hand ambulance is the best, and for long distances the horse ambulance. I may say that I have had experience of the horse ambulance. I have been House Surgeon at Wigan, where we got a lot of horse-ambulance cases from the coal mines. The men there are instructed by the St. John Ambulance Association.

1846. We shall be glad to hear anything that you have to say about that experience?—Those patients seem to come very well, just as the cases do which are brought in the hand ambulances in London.

1847. Do they come considerable distances?—Yes, quite considerable distances—some of the mines are nine miles away. I think that for long distances like that certainly the horse ambulance is a superior thing.

1848. You say something in your *précis* about patients getting away from a Hospital?—Yes, that is a great advantage to a Hospital. If the patient is well enough to be taken away the policemen take him on at once.

1849. Do the policemen generally wait to see what the result is?—Yes, always.

1850. They wait to see whether there is anything further to be done?—Yes, as soon as we tell them that we are going to take the case in they find out the particulars of where the patient lives, and offer to inform the friends, and they go. If we have not decided to take the case in they will wait for us to decide.

1851. It has been said that one of the evils of the present system is that sometimes a case is brought to Hospital and the Hospital cannot take it in, and then there is delay in sending it somewhere else—have you had any experience of that sort of difficulty?—Yes, it occurs at St. Mary's because we are very often unable to accommodate a case, but we always try to accommodate a serious case. We turn people out in order to take in a serious case, or we lodge others in the Medical Wards.

1852. Would it be an assistance to you to have some information forwarded to you when a case was likely to be brought to the Hospital, so that you might be able to

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say whether you could take it in or not?—I think it would be as well—I do not know that there would be any great advantage to be obtained from it.

By Sir William Collins:

1853. Is your experience limited to Wigan and London?—Yes.

1854. And in London to St. Mary's Hospital?—Yes.

1855. And at St. Mary's for six months as House Surgeon?—Yes, I was doing only casualty work the whole time.

1856. What was your proper designation?—Casualty House Surgeon.

1857. Mr. Ryan is the Secretary of your Hospital?—Yes.

1858. He has been greatly interested in ambulance work for some time?—He told me that he had been for a long time.

1859. Have you discussed the matter with him?—Yes, he came to me first with those forms, and asked me whether I would mind filling them up. I said that I would do so with pleasure.

By the Chairman.

1860. Those are the forms which were filled up in answer to our enquiries?—Yes.

By Sir William Collins.

1861. Did you confer with him in filling them up?—When I had finished all the fortnight I went to him and he said he would get a clean copy made, and he pointed out to me one or two mistakes which I made in the first copy, which we rectified.

By the Chairman.

1862. Those are the matters he pointed out to us?—Yes.

By Sir William Collins.

1863. Do you think that the attention which Mr. Ryan has devoted to the question of the use of the hand ambulance has had an effect in making constables who bring cases to St. Mary's more especially careful?—I do not know. I could not tell you.

1864. You said that sometimes a tremendous lot of accidents came in all together. What would be the greatest number that you had in your mind?—That occasion of which I told you when there were 16 fractures nearly at the same time.

1865. All brought by the police?—Oh, no; I could not tell you how many. I should think the majority might be brought by the police.

1866. Did I rightly understand you to say that four ambulances at one time was the most that you have seen?—Yes, that is the most I have seen. I have often seen three.

1867. Then I understood you to say that in the case of a woman with a fractured leg, or a suspected fractured leg, you would expect the police constable to apply a splint?—Yes.

1868. Would that not involve a knowledge whether it was the thigh or the leg which was fractured?—It would not make any difference.

1869. What kind of a splint would the constable use?—If he thought that the fracture was above the knee I should expect him to put on a long splint.

1870. Do you mean the long Liston?—Yes.

1871. Would you expect a policeman to apply a long Liston splint in the gaze of the public to a woman who had a suspected fractured thigh?—A broom handle is often used for that. I have seen them put a broom handle underneath the shoulder and tie it to the chest, pelvis and legs, and tie the two legs together; there would be no exposure at all.

By the Chairman.

1872. It would be all done outside the clothes?—Yes.

By Sir William Collins.

1873. On what would the constable base the suspicion of a broken leg, with a view to usefully apply any kind of splint?—The patient would complain of great pain

with a fracture, and the constable would have seen what happened—he would hear, or probably would have seen, that a van had gone over the leg or the thigh. It is not for him to diagnose, but to treat in case there was a broken leg. It is much safer to treat in case there is one than to make quite sure that there is not one and then be wrong in the end.

1874. Treatment before diagnosis?—Yes, I think that is how First Aid should be applied.

1875. You told the Committee that on one occasion a case was brought in by a policeman which was thought to be a sprained ankle, and which turned out to be a fractured leg?—Yes.

1876. In that case the fracture of the leg was not suspected?—No. I have many times had cases brought in to me which were thought to be fractures around the ankle, which were nothing but sprains, or even only bruises. It is much safer for a policeman to bring them in as fractures than it is to miss a fracture.

1877. You think that the tourniquet is rather dangerously employed?—Sometimes.

1878. How was the paralysis for life effected in the case that you referred to?—They were not content with tying the ring tourniquet round the man's upper arm but they put a big cork in the bend of the elbow and bound the arm round it and pressed on the nerves to such an extent for two hours that the result occurred.

1879. Was that a case brought by a policeman?—No, it was not—it was brought by a private individual.

1880. How was the tourniquet obtained?—I cannot remember—I daresay I could get notes of the case.

1881. Was it done by some private individual who was thought to be an expert in First Aid?—Yes.

1882. Holding a St. John Ambulance Certificate?—I do not know, but I know that he thought himself very great on First Aid.

1883. Did he accompany the case to hospital?—Yes, and told me how he put it up. I cut it off and found a small wound at the back of the arm. I never suspected that such a terrible result was going to happen.

1884. You told us that the sooner a patient is got to the hospital the better, but that it was better that he should go safely than quickly?—Yes.

1885. Should I be right in completing the story by saying that it is best that he should go safely and quickly?—Certainly.

By the Chairman.

1886. At first sight, one is a little surprised at the proportion of street accidents that you gave. There were 2,500 accidents, and about 500 street accidents?—I went through the two months and struck an average, and I believe it is right.

1887. It seems a very large proportion?—It is about one-fifth, I should think. That would be in all the accidents which occur in mills and factories and on the railway, and so on.

By Sir William Collins.

1888. Then 500 street accidents in six months would give you 1,000 street accidents in St. Mary's in a year?—Yes.

1889. I suppose they have to be multiplied by at least 12, and possibly 20, to get at the total number for all the hospitals of London?—I do not quite follow.

1900. There are 12 Hospitals with Medical Schools?—Yes.

1901. And other hospitals besides, which take in casualties?—Yes, and some of the Infirmaries, like that in the Harrow Road, take them in.

1902. From those figures which you suggest, there must be a larger number of street accidents than the police have cognisance of?—What my figures help to suggest, I think, is that nearly all the serious cases are brought by the police.

1903. How many of the 500 street accidents were brought by the police?—350.

By the Chairman.

1904. 97 serious accidents, out of 221 altogether were brought by the police?—Yes.

1905. Including accidents happening otherwise than in the street?—Yes.

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1906. What is the area served by St. Mary's Hospital. Does it touch any of the very crowded parts of London?—There is the Edgware Road, Praed Street and down by the Marble Arch and High Street, Kilburn. I think there ought to be more ambulances at Kilburn.

1907. And a considerable area outside London?—Yes; we go a tremendous way round. The Harrow Road is a very populous neighbourhood, and so is Notting Dale. All those cases come to St. Mary's, and we take in almost down to Acton. It is a very large area, some parts of which are very crowded, but others are almost country.

Mr. E. M. COX, M.D., L.S.A., called in and examined.

By the Chairman.

1908. You are a Doctor of Medicine, and you now practise in London?—Yes.

1909. And you can tell us something about the Roosevelt Hospital in New York?—Yes; I was formerly a member of the staff of the Roosevelt Hospital, and an essential part of that staff is the ambulance work.

1910. For how long were you connected with the Roosevelt Hospital?—For two years as interne and during one year of that on ambulance work. The two junior members of the house staff do ambulance work and the two seniors are excused from it.

1911. How long ago is it since you were there?—It was twelve years ago.

1912. Was the ambulance system at present existing in New York working then?—Yes, it has been practically the same for thirty-five years. There have been some improvements in the vehicles.

1913. You say that the word ambulance is confined to a motor or horse-drawn vehicle?—It would be in New York.

1914. You would not call a wheeled litter an ambulance at all?—No.

1915. Would you kindly tell us what your experience is as to the working of the ambulance system in New York?—Simply the working, do you mean, not the organisation?

1916. Yes, the organisation too; we should like to know everything about it?—The members of the house staff are appointed by competitive examination, and for a two years' term of service, during the last six months of which they act as house surgeons, when they have a good deal of responsibility. In the first year they do ambulance work alternately. That ambulance work involves responding to calls to go out with the ambulance to any part of the district covered by that hospital. The calls come, of course, at all hours of the day and night. All members of the house staff live in the hospital. The vehicles are either horsed or motor, and until very recently, I think, they found that the motor ambulances were not as serviceable as the horsed ambulances, because the motors are so apt to break down at inopportune moments. Only recently I have got a return stating that they do very well. However, the principle is the same. The ambulances are housed in the hospital grounds, and connected by telephone with the receiving office of the hospital. The calls come from anywhere in the district, in the majority of cases through a policeman, and almost always by telephone. Many cases which ought to have had ambulances called for them were brought in by other means, and in many cases ambulances were sent for when it was not essential that they should have been sent for, and, of course, a great many casualties were brought to the hospital and taken to the out-patients' department and never got into the main hospital at all. But, practically, all serious accidents, and many that were not serious, were brought in in the ambulances. In every case, as I say, one of the house staff had to go with the ambulance. In most of the New York hospitals the ambulance service (if it is a matter of any interest), is paid for by the hospitals entirely.

1917. Are the hospitals municipal institutions?—In the City of New York there are several municipal hospitals which are paid for by City and State funds; but most of the hospitals, such as the Roosevelt Hospital and the New York, are endowed. They are always, like all hospitals, ready to accept further additions to their income, but they have enough to get on with from their endowment funds, out of which they support all the departments. They have a Hospital Saturday and Sunday Fund just as they have here, which is divided up in a *pro rata* method at the end of the year.

1918. Then the ambulances are the property of the hospital?—Yes, except in the case of the Municipal and State hospitals.

1919. And they are managed by the authorities of the hospital?—Entirely. The hospitals find the horses, pay the drivers and keep the drivers, and pay for the up-keep of the system. It is recognised as a more or less essential part of the hospital charity, and the public has been rather spoiled by it because they have got accustomed to have a qualified man go out with the ambulance every time, so that in New York it is practically a fixed custom now. Personally, I do not think it is essential.

1920. Do not you think it is essential that a skilled man should go with the ambulance?—Yes, a skilled man, but not necessarily a qualified member of the house staff.

1921. That was rather the view of Dr. Collic, that it was not essential that anyone having the skill of a surgeon or even a medical student should go, but that you did require a trained attendant?—Yes.

1922. That is not the practice in New York?—It is always a qualified man in New York. Of course, the State Hospitals and the City Hospitals pay for their own ambulance service out of the general appropriation for the hospital. At the Bellevue Hospital, New York, when I was there, they had 12 ambulances, and most of them were going all the time.

1923. Are those ambulances used for cases other than street accidents; are they used for conveying people from their homes to hospital?—Yes, for any kind of accident—any casualty.

1924. Or for cases of illness?—Yes, any medical or surgical casualty in a street, warehouse, factory or house.

1925. In a case of peritonitis, for instance?—Yes, any medical or surgical emergency—sometimes when the emergency exists only in the mind of the policeman.

1926. Now, can you tell us about the connection between the hospitals and the police; you said that a certain proportion of calls came from the police?—Yes, the large majority. There is a general telephone system, of course, in the City, which is very highly organised, and all the hospitals are connected. In addition to that there is the police system of telephones which connects every police station with every other police station and with headquarters, so that a policeman is practically never more than a hundred yards from a telephone of some kind. If an accident occurs on his beat he steps up to the nearest telephone and telephones to the hospital which covers that particular district—either the police telephone or the general telephone. If he is nearer a police station he would step in and use their telephone.

1927. Are the hospitals connected with all the police stations?—Yes.

1928. By special wire?—They are all joined to the general system. He would step in and say, Please send the ambulance to such and such a corner—that would be all the formality necessary—and the ambulance would come at once.

1929. So far as you know, is that the only regular mode of conveying a case to hospital? If an accident happens in the street would a policeman ever send it on in an ordinary conveyance?—No.

1930. They always send for the ambulance?—Yes, always. It is only under the most unusual circumstances that I have ever seen a patient brought to a hospital in a cab; occasionally, but very rarely.

1931. Either by the police or anyone else?—Yes. Of course any ordinary citizen can call the ambulance in the same way, and many calls were given by having people walk into the hospital and say, There is a case of very serious illness in such and such a place, will you send an ambulance?

1932. And the hospitals do that?—Yes.

Dr. E. M. Cox.

1933. You said something just now about there being a good many cases where the ambulance was applied for unnecessarily. Is that the case with the police?—No, I do not think the police are as great offenders in that regard as the ordinary citizen. A policeman generally is of a calmer temperament and does not get excited so easily—perhaps he is not so sympathetic.

1934. At the same time he cannot always tell whether an accident is serious or not?—That is so.

1935. Does any difficulty occur in that way. Does a policeman send for the ambulance when it is not necessary, and, conversely, does he omit to send for it when it is necessary?—Very rarely the latter, they more often send when it is not necessary, because they prefer to be on the safe side. That kind of thing occurs in a particular kind of case—in various kinds of coma, where they do not dare to attempt diagnosis.

1936. Are you able to give us any idea as to the number of times that the ambulances are called out?—In the first year that I was at the Roosevelt Hospital, they had two ambulances, three horses, and two drivers, and two members of the staff to respond to calls. In that year there were in round numbers 2,500 calls, of which I personally took 1,000.

1937. Would that be about a fair specimen?—The numbers have considerably increased since then because the population of that district has increased. At Bellevue Hospital they had about 6,000 calls.

1938. Is there a particular district assigned to a hospital?—Yes, each hospital has a well marked district bounded by certain streets. The whole City is divided into such districts.

1939. Hospital districts?—Yes, and anywhere in its district the Ambulance must go.

1940. I suppose in that district exclusively?—Yes, except in a case of great emergency, such as a large fire. Then the Ambulance would go anywhere. I have seen 30 hospital ambulances at a fire.

By Sir William Collins.

1941. I think there are about 10 general hospitals in New York?—I think nearer 20.

By the Chairman.

1942. Is the district that appertains to the Roosevelt Hospital an accident district?—Yes, tremendous. There is in it a large railway yard with a very large goods station and a great many tracks, and they have a great many casualties of that kind; and one part of the district is a very rough district, and that always means casualties.

1943. Does it include any part near the Docks on the river?—Yes, a large frontage on the Hudson River.

1944. That would be fertile in accidents?—Yes; we had at least two miles of frontage on the river.

1945. What would be the average distance that cases would have to be conveyed to hospital?—The Roosevelt district is three miles long and a mile wide. The shape of the city makes elongation of a district necessary.

1946. That was the district served by these two ambulances?—Yes.

1947. Was there much delay in getting the ambulance at any time?—Very rarely delay. I should think that the ambulance even at night was never longer than three minutes; and in the day time perhaps one minute.

1948. Are the horses kept ready harnessed?—No; but it is the drop harness such as they use in the fire department, which does not take more than a minute; it is all ready and drops on the horse. As a matter of fact, the horse comes out of its stall when the bell rings, it is so accustomed to it.

1949. Have you any statistics showing the population served by the Roosevelt Hospital, or any means of getting that information?—I think I could get it. I should think it was about 300,000.

1950. That would be represented by this number of accidents that you gave us just now?—By the number of ambulance calls. There are many more accidents. The policeman, of course, is expected to do a certain amount of First Aid.

1951. I was just coming to that. Will you tell us something about it? How far do your police go in that direction?—The policeman is not supposed to take any responsibility as to diagnosis, but he is supposed to

know about stopping obvious hæmorrhage and to know enough not to move a fractured limb much, nor to disturb a case of coma, and to let a case of a bad burn alone, and a few elementary things like that. He is supposed to know enough to put on a temporary splint and he is also supposed not to take any responsibility; as I said he must send for the ambulance.

1952. I suppose the working of the ambulance system in New York is very much facilitated by the assignment of a particular district to a particular hospital?—Enormously.

1953. If you had to serve the whole of New York?—It would be impossible; one hospital could not do it.

1954. What I mean is, if you did not know where to go with your particular ambulance, if the ambulance could go anywhere?—The police all know of course, and if a citizen was sending a call and did not know which hospital to telephone to he would have to go and ask a policeman. But of course every policeman would know.

1955. Have you any views about the applicability of this system to London or any similar system?—I can see no reason, leaving out the financial question with which I have no concern, why practically the same system should not be applied to London. I think the necessity exists. I do not think it is essential to adopt the New York system *in toto*, but I think that London certainly requires an ambulance service.

1956. Have you any other criticism to make on the New York system than that which you made just now, that it was not necessary to send a medical man or professional assistant?—I think not. I think the system works extraordinarily well. They have the same system I might say in other large American cities; of course New York is the prototype, but it works just as well in all other cities. In every one of them it is looked upon as essential.

1957. There is one other point that you spoke of just now, the unnecessary summoning of the ambulance. That I suppose is unavoidable?—It is unavoidable; and it is not a large proportion. Like every other charity the ambulance is bound to be abused to a certain extent, just as the out-patient's department of a hospital is sure to be abused, but we have to keep them up. I see no reason why the same system should not be adopted in all its essentials in London. The hospitals are not so badly situated that London could not be divided into convenient districts, and London is a better shape than New York for that sort of thing. It seems to me that they have practically got the facilities.

1958. There is now, practically, no such thing as a hand ambulance in New York?—Practically there is none, they would call it a litter or stretcher. But there are no public ones. Each police station is supplied with a stretcher, but it is merely used to carry people in to the ambulance. Each ambulance has a stretcher. If I might say something about the equipment of the ambulance, the bottom of the ambulance is a sliding bed which slides out, and two legs drop down, so that it practically stands in the street. They carry with them tourniquets, splints, one or two artery clamps, a number of antidotes for the commoner poisons, stimulants, and bandages, so that it makes the surgeon in the ambulance practically ready to apply any kind of First Aid or any antidote for any poison that he is likely to meet with. Otherwise he simply has to hurry and get the patient to hospital.

1959. In what proportion of cases do you think it is desirable or necessary that the surgeon should actually treat the case in the ambulance in that sort of way; does he generally leave it till he comes to the hospital?—Taking the ordinary casualties, I do not think that the proportion is very high where immediate treatment is essential, but the proportion in which intelligent First Aid is essential is very high.

1960. And that is administered before the ambulance reaches the place?—To a certain extent. But I should divide First Aid into two kinds: the kind that a policeman can give, and the kind that a surgeon can give. A policeman, no matter how well trained he is and how intelligent, can only give a very moderate amount of First Aid, but in the case of the ambulance surgeon, I should consider, for instance, the administration of an antidote a form of First Aid really, because it is only a preliminary to the treatment of most cases of poisoning. The intelligent application of a splint is really a form of First Aid. A policeman can apply a splint, but we could not expect a policeman to apply it with what would be professionally called intelligence.

1961. We had a very good example given us by the last witness of a policeman applying a splint to a fractured thigh by means of a broom handle put outside the woman's clothes and attached to the body and legs?—That was very good; that policeman was intelligent enough to recognise in the presence of that form of fracture that the patient should not be moved much, so he did his best to put the limb at rest. That is what I call ordinary First Aid, but that is a different kind of First Aid from what the ambulance surgeon would apply with a dislocated shoulder—he would manipulate it and put it in at once, which saves the patient an enormous amount of pain. If he could not put it in at once he would take the case to the hospital and give him an anæsthetic. But you could not expect a policeman to attempt the reduction of a dislocation. And of course certain forms of hæmorrhage are very dangerous to leave to a policeman. I remember one case where a woman was actually killed by the application of a tourniquet. It was a case of hæmorrhage from a varicose ulcer. The policeman put the tourniquet on above the bleeding point, but did not put it on very tight; he put it on tight enough to compress the veins but not the arteries, so that the arteries went on pumping blood into the limb which came out through the broken ulcer, and the woman died in a few minutes. The policeman was doing what he considered the proper thing. It was an unfortunate accident. I have never known it to happen but once, but still it is the sort of thing that might happen.

1962. Is there anything else you would like to add?—I think I have given an idea of the system there. If there is any question I can answer I shall be very glad.

By The Earl of Stamford.

1963. There is one point in your *précis* which attracts my curiosity, in which you mention the importance of alcoholism?—A very large proportion of the street cases have an alcoholic basis, and I think about 30 per cent. of the ambulance calls at the Roosevelt Hospital had alcoholism as a complication, usually some injury too. It is a thing that has to be taken into consideration, because, if you get a deep alcoholic coma it resembles in a good many ways apoplectic coma; and although the police do not like to call an ambulance and have the case turn out to be one of mere alcoholism, they do not like to take the risk of making a mistake, and we used to get a number of cases of pure alcoholism.

1964. With regard to the telephone, are there any call-posts in the streets?—The telephone is much more generally in use in New York than it is here. The last thing I saw was that in one borough—the Borough of Manhattan—there are 120,000 private telephones, not counting the police telephones.

1965. And those can be used in case of emergency?—Yes.

1966. Do the police carry any First Aid appliances with them?—No.

By the Chairman.

1967. Are the police under the Municipality?—Yes.

By Sir William Collins.

1968. Just one or two questions to complete the picture. What is the population of New York?—About four-and-a-half millions.

1969. And every general hospital, I understand, has one or more horse ambulances?—Yes, so far as I know, without exception.

1970. There are most at the Bellevue Hospital, are there not?—Yes.

1971. What was the number there?—There were 12, as I remember it, when I was there. It is a very large hospital, of course.

1972. And Harlem, Gouverneur, Ninety-ninth Street, St. Vincent, New York, Chambers Street, Manhattan, Presbyterian, Roosevelt, all have horsed ambulances?—Yes.

1973. Horsed or motor?—Yes, two or more.

1974. Can you tell me how many are motor and how many are horse?—I cannot; the proportion is not high.

1975. Is the tendency to replace the horsed ambulance with the motor or *vice versa*?—I should say there is not a very strong tendency. I think they find the horsed vehicle cheaper and more trustworthy, and practically as quick, because the ambulance gets right away, everything being diverted for it.

1976. I saw some letters a year or two ago indicating that they were disposed in New York rather to favour the horse ambulance than the motor, and then again more recently I have heard the opposite opinion; could you tell us what is the latest opinion?—I think that a year or two ago they were disposed to stick to the horsed ambulance, and now, owing perhaps to improvement in motor engines, they are using the motors.

1977. Would it be very rare to see a case, either of street accident or illness, which arrives otherwise than by walking, in any other vehicles than an ambulance?—I should say that they did not amount to five per cent. of the cases.

1978. The wheeled litter, you say, is practically unknown?—Yes; the hospitals have them, but they never send them out.

1979. Has there been any difficulty in using your form of ambulance as a means of transport when a number of casualties have happened at the same time?—No, because sometimes—at the Roosevelt Hospital for instance—we would send out both of the ambulances at once if necessary, and in case of bad accidents—say, at a large fire where numbers of people have burns and various injuries—other hospitals would send their ambulances into the Roosevelt district if necessary.

1980. How many persons can be carried in an ambulance?—You can get three in, but in a great emergency you could take more if they were not serious injuries. You could carry two cases of serious injury easily.

1981. We have had suggested to us that, in case of many accidents happening at the same time, the wheeled litter might be more useful than the rapid-moving ambulance; would that be your opinion?—I should say decidedly not.

1982. How long, may I ask, have you been in London?—Five years.

1983. Have you paid any attention to our ambulance system, such as it is?—I would not like to say that I am thoroughly familiar with it, but I think I know the essentials.

1984. And comparing New York with London, would you say that, at the present time, the system in London is defective?—I am afraid I should consider it so.

1985. And resulting in unnecessary suffering and injury?—I think it does in some cases.

1986. And with your experience both of New York and London, do you see any reason why the New York system should not be applied to London?—Not at all, as I said, with possibly certain modifications. I do not think it is necessary to adopt it as a whole, the chief modification being that I do not think it is necessary to send a qualified medical man with the ambulance.

1987. But you would send a skilled attendant?—Yes. A well-trained hospital orderly would be my idea.

1988. A man who makes that sort of work his habitual duty?—Yes, and who does nothing else.

By the Chairman.

1989. Have you any hospital experience in London?—Only from observation. I have not done any hospital work here.

NINTH DAY.

Friday, 19th July, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Honourable The EARL OF STAMFORD.

| Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. H. F. CURL, M.R.C.S., L.R.C.P., called in and examined.

By the Chairman.

1990. You are a Member of the Royal College of Surgeons of England?—Yes.

1991. And House Surgeon at the Prince of Wales's General Hospital, Tottenham, and late at the Poplar Hospital?—Yes.

1992. About how long have you been at the General Hospital, Tottenham?—I have been nine months at the Prince of Wales's General Hospital, Tottenham, and six months Casualty Officer at the Poplar Hospital.

1993. At Poplar, I suppose, you saw a great deal of the dock accidents?—Yes, a great deal. Many of our cases were from the docks.

1994. Those, I suppose, were brought in by the Docks Police?—Yes, the Docks Police; and the docks also have an ambulance and a man trained to render First Aid, who does it, I think, in a most efficient manner. Most of the cases I saw that came into our hospital from the docks were very well treated as regards First Aid; they came to the hospital very quickly, in quite as short a time as possible.

1995. They came from close by, I take it?—Yes, from just outside the hospital gates practically, from the East India Docks.

1996. I suppose the majority of the accidents from the docks come to the Poplar Hospital?—Yes, I should think that all the accidents which happen at the docks come to the Poplar Hospital.

1997. And they have an arrangement of their own, quite apart from the Metropolitan Police?—Yes, quite apart.

1998. The Metropolitan Police do not go into the docks?—No. I think they would if occasion arose, but I never saw it. They have policemen of their own.

1999. What do you say generally, first of all as to the necessity of some improvement in the system of conveyance of accidents to hospital. I suppose your experience at Tottenham is somewhat different?—Quite different. We get cases from a distance at Tottenham, and it is there really where we find that the need for some alteration in the existing mode of conveying patients is most marked. We get patients from Waltham Abbey and Waltham Cross, a distance of five, six or seven miles away, and the majority of those cases come up in cabs.

2000. That is quite irrespective of any boundary, the boundary of the London County Council, or even the Metropolitan Police district?—Yes.

2001. Do you get cases from outside the Metropolitan Police District?—I do not know whether Waltham Abbey is in the district.

2002. You get cases from beyond Waltham Abbey? Waltham Abbey is well within the Metropolitan Police District?—I do not think we get cases from much beyond there.

2003. From Cheshunt?—Yes, we have had cases from Cheshunt, but we do not get many cases from beyond Waltham Abbey.

2004. Do you get cases from as far as Potter's Bar?—Yes, we have had cases from Potter's Bar.

By Sir William Collins.

2005. The circuit is about 15 miles, and Waltham Abbey would be just within?—Yes.

By the Chairman.

2006. Therefore you have them occasionally from distances of seven or eight miles?—Yes, quite seven miles.

2007. Your evidence is very important then about some of these outlying districts: I shall be glad if you will give us your views about what the requirements of these districts are as to the conveyance of cases of accident or sudden illness in the streets?—It seems to me that anything in the nature of a hand-drawn conveyance would be very inconvenient, both from the point of view of the time taken and for the sick patient. I am not thinking quite so much about the damage that might be done to the existing injury, as of the discomfort. Two or three hours, two hours at least, in an ambulance like the Police Ambulance is not a very comfortable thing.

2008. Are you prepared to speak to these figures in the Returns from the Tottenham Hospital?—Yes, I think I can; I have made out a small list of cases that we have had brought up by the police during the last seven weeks, because during the last seven weeks we have taken more particular notice of the mode of conveyance than we had before. During the seven weeks we got 27 cases brought up by the police, they are the more serious cases, not counting minor cases which are of no importance. 15 of those were brought up by wheeled litters, and 4 were brought up by stretchers.

2009. That is to say, stretchers carried on the shoulders?—Yes, or on the hands: three were carried by the police—those were children, one of whom had a compound fracture of the tibia and fibula; three were brought up by carts, one of which was a fractured base and another was a concussion case; two were brought up by fire engines—one, only yesterday, was brought by a fire engine from a gas explosion in the neighbourhood: the patient was propped up by the driver very close to the boiler, where there was a small space, and was brought up like that. One was brought up by a cab from Enfield Highway, which, I think, is about four miles; that was a fractured pelvis.

2010. Have you any record which enables you to say which of these cases happened in the streets or public places and which happened on private premises?—We have no record of that; but I think the majority of cases brought up by the police happened in streets or public highways.

2011. Take that gas explosion case, for example?—That certainly was in the street. The fire engine went out to the fire, or supposed fire, and brought in the patient. I know that the fractured pelvis case happened in the street, and I know that the case of the compound fracture of the tibia and fibula, which was carried in, happened in the street—it was run over.

2012. Would you say, as a general rule, that the cases noted as having been brought in by the police happened in streets and public highways?—Yes, in a street or in a public place; because they happen at outings and that sort of thing very greatly. Then we have had 21 cases which were not brought up by the police; five of those were brought up by Vanguard 'buses—but perhaps they hardly come within the scope of your enquiry.

2013. They do not really, but I think we should be glad to get the information about them, because it bears upon the subject. I think we should like to have any facts that you have to tell us about these other cases, because it is impossible to separate the two things really?—Then there

were three brought up by cabs, and these were all street accidents; one was a Pott's fracture, and another was a dislocated hip in a very big man, and I know the difficulty of getting him out of the cab so that I can imagine the difficulty there was in getting him into the cab; another was a fractured femur, which came from Waltham Cross.

2014. How did that come?—It came in a cab: all these came by cab. This fractured femur came from Waltham Abbey. It took 75 minutes from the time of getting the cab to reaching the hospital, and I do not know how long they were in finding the cab—I should think some little time, because cabs are not very plentiful in that neighbourhood. First Aid was rendered there: the man had a long splint down his leg.

2015. Was it rendered efficiently?—Quite efficiently.

2016. By the police?—No, not by the police, by some private individual in the street. I do not know by whom. Seven were brought up by carts, one from Ponder's End, that was in a butcher's cart: Ponder's End is about four miles from the hospital. One was brought up by a motor car which had caused the accident to a child who was knocked down by the car; they simply brought it up straight to the hospital. There is one case that happened at Waltham Abbey in which the man fell from a scaffold into the street and fractured two or three ribs: it was two and a half hours after the time of the accident before he reached hospital, owing chiefly to the fact that he was taken round to another hospital where they could not take him in, and he was sent on to us. He came up in a cart.

2018. They had tried at one hospital before?—They drove to one hospital first. There was another man at Ponder's End, a fireman—this happened about three months ago, only I remembered it and thought I would put it down—a fireman who stopped a runaway horse and fractured his femur. He was sent to our hospital from Ponder's End and we had no beds and had to send him on to the infirmary.

2019. Is that some distance away?—It is about three-quarters of a mile to the infirmary.

2020. In those cases was the injury aggravated by the mode of conveyance?—I think it is rather hard to say whether the injury was aggravated, but I have not the slightest doubt the man was suffering unnecessary pain by the mode of conveyance; because they come very often sitting up, propped up with sacking or something of that sort.

2021. Do they ever come to your hospital in a horse ambulance?—I have never seen one.

2022. Have you known them come in an ambulance belonging to the Metropolitan Asylums Board?—No, I have never seen one. It may have occurred but I have never seen one.

2023. Your evidence comes to this then, does it: that you think some more systematic mode of conveyance is a great need in those districts?—Yes, for long distances I think so. I think for those accidents that occur in the street or in the immediate neighbourhood the present mode of conveying to hospital is all one can expect.

2024. Contrasting your experience at Tottenham with your experience at Poplar, you would say the need was very much greater in one case than in the other?—Very much. I should say, speaking generally, that they were brought up to the hospital in Poplar in very good condition and as quickly as possible.

2025. I should like to have your general experience at Poplar?—I do not remember at Poplar having any cause for complaint during the time I was there.

2026. Did a large proportion of the accidents come to Poplar in police wheeled litters?—Yes, the majority; a certain number came up in carts.

2027. Have the Docks the same sort of litter?—The Docks have the same sort of thing—perhaps rather more modern and kept perhaps rather cleaner than the police ambulances are.

2028. You have spoken of cases of increased suffering and, in some cases, of aggravated injury; do you recollect many cases of that kind at Poplar?—I only remember one case really where distinct injury was done; it was a case that did not come up at all by an ambulance. They were laying down the tramway line along the East India Dock Road, there were a lot of workmen at work there and one man ruptured a varicose vein in the calf of his leg. It was about 200 yards from the hospital, and instead of being put in the ambulance he was carried up by the policeman and another man crossing hands, with his legs

dangling down. The blood was squirting from the ruptured vein; the policeman had tied a very tight bandage above it, and it squirted more and more, so that when he came into the hospital the man was very much collapsed from loss of blood and for one or two days was very bad.

2029. That was wrongly administered First Aid, was it?—Yes, I think it was.

By Sir William Collins.

2030. And the mode of conveyance was wrong?—The mode of conveyance. But that is really the only case that I can call to mind.

By the Chairman.

2031. I should like to get information from you as regards your experience of First Aid. You have had a great many more accidents to deal with at Poplar than at Tottenham?—Yes, a great many more.

2032. What is your opinion as regards the efficiency of the First Aid treatment which patients received generally?—I think it has been very fair. I think the tendency is to do too much rather than too little.

2033. Have you seen many cases where it would have been very desirable to have had more skilled aid on the spot where the accident happened before bringing the patient to hospital?—I do not think I have ever seen a case where ordinary First Aid, if it had been rendered, would not have been all that was required.

2034. Is it your opinion that that is the best way of treating cases of that kind, to have what you call ordinary First Aid, that is to say, the sort of First Aid that you might fairly expect a policeman to become skilled in?—Yes. I do not see what else can be done to them. It seemed to me, as I was reading the evidence, that if you take the hospital to the patient even then you can only render First Aid: you cannot do anything at all permanent; whatever you do you will have to do again when you get the patient to the hospital.

2035. Have you looked through these returns (*Appendix I., p. 72*) that have been given by your hospital?—I have them here.

2036. Have you anything special to say about them. I think they speak pretty well for themselves?—Yes, I think they do. I do not think I have anything special to say about them.

2037. Did you prepare them?—I did not prepare them; I assisted in preparing them. Unfortunately we had not up to the present time kept this sort of account.

2038. This was done specially for our information?—Yes.

2039. These Returns cover 31 days from April 27th to May 27th—and you assisted in preparing them?—Yes.

2040. Referring to the column "First Aid—By whom rendered," I see that "Doctor," "Doctor" is returned in several cases?—Yes.

2041. Do you think that it is common to have a doctor sent for at the time?—It seems to me more common at Tottenham (I must say that at Poplar I never remember seeing such a thing), but I should hardly like to say it is common.

2042. I see as regards First Aid, that out of six cases there are three by doctors and three by private persons?—What struck me was that there was hardly a case that ever came into the Poplar Hospital, an accident, a fracture or anything of that kind, where a splint or some kind of First Aid had not been rendered; whereas at Tottenham in quite the majority of cases there is no First Aid at all.

2043. I suppose that would also be accounted for by the arrangements in the docks?—Yes, I suppose so. But I think the cases come in a much better condition at Poplar than at Tottenham, for that reason. I do not mean necessarily to say that simple fractures have been made compound, but no doubt there has been pain caused to the patient.

2044. One point that is of importance in this enquiry is the efficiency of the First Aid rendered by the police. Have you anything to say about that; is it what might be expected, so far as it can go, or is it defective in any way?—I think it is fairly efficient.

2045. I see a bad case here, apparently, in the Return, case No. 6 (*Appendix I., p. 72*) a case of fractured base of the skull brought in a cart, and the mode of conveyance that would have been desirable would have been a litter, you say. Of course, there you are speaking rather of the modes of conveyance that are available now?—Yes.

2046. Not of what might be available under an improved system?—No.

Mr. H. F. Curl.

2047. It seems to me rather a strong case. I think it is marked in the Return as having received material injury; it took 15 minutes, and the patient's condition was considered to have been prejudiced?—Yes.

2048. That is a police case, apparently?—That is a police case.

2049. There the inference drawn from these returns is that in that particular case a cart was used where a litter ought to have been used?—Quite so. I think that the police round Tottenham always, when they can, if a cart happens to be passing, take advantage of it. I do not think they have got instructions whenever it is possible to bring the patient up in an ambulance. I simply judge that by the conveyances they do bring them up in.

2050. At all events, you say that is not the practice to use an ambulance, a litter, as a rule?—That is not the practice.

2051. You are in a position to judge; would you say that in that Division sufficient use is not made of the mode of conveyance by litter (whatever you may think of that mode of conveyance) which they might use?—I think they are given discretion to use any mode of conveyance.

2052. There are certain rules laid down, but we want to get at the facts?—I think there were many cases where patients have been brought up by carts and carried up when an ambulance would have been better. Whether or not an ambulance was handy at the time, or could have been got readily, I cannot say.

2053. You would say, at all events, that there ought to be more recourse to the litters that they have than there is at present?—Yes.

2054. Do you know which division of the police that is?—The N Division. But I am not in any way criticising the action of the police, because they do very well.

2055. All we want to get is the actual facts to see whether we should suggest any amendment. Have you anything else you desire to add with regard to these returns, or any other point?—There is one thing I should like to say that I do not think, really, comes into the scope of the enquiry, that is about bringing patients from their homes to the hospital.

2056. Will you say what you wish to say on that point?—Two or three times a week I have letters brought to me from medical practitioners outside, practising in the neighbourhood, saying that they have acute cases which require urgent treatment. A case occurred only the other day. I had a letter from a doctor outside to say that he had a case of general peritonitis. The letter reached me, I think, at 7 o'clock. They are very poor people; they have no money to pay for anything in the way of conveyance. It was a quarter past 12 before the case arrived at the hospital from about two miles away.

2057. You had no means of sending anything for the patient?—We have a hand ambulance, but there was only one man in the house, the father, who was considerably advanced in years, and was not capable of pushing it. We would have lent our hand ambulance—in fact, we did lend it—although I believe we are not supposed to send it out for that sort of case. And the boy really suffered; he died. Whether he would have died otherwise it is impossible, of course, to say.

2058. It did not give him much chance?—No.

2059. Are there any ambulances at all in your neighbourhood belonging to the Metropolitan Asylums Board?—There are fewer ambulances.

2060. But they have ambulances for infectious cases, and ambulances for non-infectious cases?—We have not got any others, so far as I know.

2061. Not available?—Not available. The only thing that we have is a small ambulance belonging to the Edmonton Friendly Society, but they charge 5s. to the patient, and the majority of our patients cannot possibly pay 5s.

2062. Is that class of case a numerous one, where there is urgent need of speedy removal to hospital from private houses, factories and so forth?—We really have a great number of them.

2063. You think there is a great need in that respect?—Yes, I feel very strongly about it; from what I have seen at Tottenham I know there is a great need for it.

By the Earl of Stamford.

2064. What kind of ambulance is the Friendly Society ambulance?—An ambulance drawn by a horse. It is small; it has got a Cape-cart covering and there is a

stretcher on the floor, but it is not kept at all clean. They keep it as clean as they feel inclined to, but it is not surgically clean at all.

2065. Have you sketched out in your mind the sort of system that you would think advisable for the district with which you have to deal?—We have opposite our hospital a fire station, and I thought a horse ambulance might be kept there at a comparatively small expense. They must have horses and they must have men at the fire station; and I thought an ambulance could be sent out for cases at a distance very readily.

2066. Have you thought over the question of horse traction or motor traction for ambulances?—No, I am afraid I have no opinion upon that. I do not see really that it makes much difference, one or the other; I should almost think the horse ambulance would be preferable.

2067. With regard to the ambulance stations of the Metropolitan Asylums Board, there is one at Homerton; I suppose that would be the nearest to you?—Yes.

2068. Is there one at Edmonton?—No, there is one at St. Anne's Road, I think.

By Sir William Collins.

2069. Have you had experience in any other hospital in London besides Tottenham and Poplar?—I was a student at the London Hospital.

2070. Did you notice anything special there in the way of street casualties?—I cannot speak definitely about that. I did not go into the subject deeply there.

2071. I think in the figures you gave us from Tottenham in the last seven weeks you spoke of 27 cases brought by the police and 21 cases not brought by the police?—Yes.

2072. I do not think you quite completed the story about the 21 cases not brought by the police. I made a note that five came by Vanguard 'buses; three in cabs; seven in carts; and there would be some more?—One by a motor car, and two others: one from Ponders End and another from Waltham Abbey. That is 18. The other three, I think, must have had nothing particular to mark them.

2073. Of the 27 brought by the police one was a fractured base of the skull, brought in a cart?—Yes.

2074. One was a fractured pelvis, brought in a cab?—Yes.

2075. A four-wheeler?—Yes.

2076. Do you regard a four-wheeler as a very unsuitable conveyance for a fractured pelvis?—Very.

2077. Was there any internal injury accompanying the fractured pelvis?—No.

2078. Then one was carried; that was a compound fracture of the tibia and fibula?—Yes. I may say about that that it was quite close—the child was run over and the police simply picked her up and carried her straight in.

2079. How many of the 21 who were brought by others than the police were brought in ambulances?—I have got notes of none of them. The only ones that might have been were the three I have left out.

2080. Is that about the proportion of cases of serious accident which are brought by the police and brought by persons other than the police: 27 by the police and 21 not by the police?—Yes.

2081. Would you say that was about a sample of the general occurrence?—Yes, I should think so.

By the Chairman.

2082. At Tottenham?—Yes, at Tottenham.

By Sir William Collins.

2083. You told us, I think, that all or nearly all of the accidents in the Docks come into Poplar Hospital?—Yes.

2084. I suppose the converse is not true, that the only accidents coming into Poplar Hospital are from the Docks?—No.

2085. What proportion would the Dock accidents be of the total?—I am only speaking from my memory, I should say about 5 per cent.

2086. You have not told us much about accidents, other than those occurring at the Docks, brought to the Poplar Hospital; could you tell us anything about them?—Those accidents were chiefly, of course, street accidents which were brought up by the police. The majority of cases

I think, were brought up by the police. I cannot remember a case that was not brought up in an ambulance or a litter of some kind.

2087. Have you got any details at all of those cases?—I am afraid I have not. But really at Poplar they have an enormous number of accidents and they are very well able to judge of the way patients are brought up from short distances.

2088. That is what I wanted to ask you: From how wide an area would Poplar Hospital draw its cases of accident?—I think the two mile radius would be as far as ever they would go.

2089. But the large majority would be much nearer than that?—Yes, the large majority.

2090. I suppose the Dock gates are actually just across the road from the hospital?—Yes.

2091. Did I correctly understand you to say that the mode of conveyance from the Docks was better, in your opinion, than that adopted by the police?—I think so. I think that is true. It is only true in so far as the ambulance they have got is a cleaner ambulance and a lighter ambulance, and it is more comfortable from the point of view of the patient.

2092. Could you mention in what respects you noticed it was cleaner or better?—I think in this way. In passing from the Docks to the hospital they simply had to cross the road, which really did not necessitate any sort of covering

over the patient for the purpose of hiding him from the crowd. That is what I notice in police cases coming up; the patients complain dreadfully of the thing pulled over them. They say it is very stuffy and very uncomfortable.

2093. What is the construction of the litter that is used in the Docks?—They have a wheeled litter or a hand litter; I think they use either the one or the other, whichever is nearer the place of accident at the time. I am speaking merely from my memory of these things.

2094. You mentioned that case of ruptured varix brought by the police, in which I understand that in your opinion the ligature had been improperly applied and that the mode of carrying was also not that which was desirable. Do you remember at all the time which intervened between the occurrence of that casualty and the arrival at the hospital?—No. I think it must have been about 20 minutes. The man ruptured his vein and the man working by his side, seeing the blood pouring out, tied his handkerchief round it; then the blood squirted more and the policeman came up then. I think there is a certain amount of excuse for the policeman, because then the blood was squirting like an artery, and he, thinking it was an artery, tied something even tighter above still.

2095. You think it took about 20 minutes in that case?—Yes.

2096. The patient eventually recovered?—Yes, the patient eventually recovered.

Mr. H. R. DEAN, M.B., B.Ch. Oxon., M.R.C.P. Lond., called in and examined.

By the Chairman.

2097. You are Resident Assistant Physician at St. Thomas's Hospital?—Yes.

2098. I think you have come to speak mainly about what may be classed as medical casualties?—Yes, cases of sudden illness in the street, as opposed to accident cases—cases that come usually under the charge of a physician rather than a surgeon.

2099. Will you take your own line as to what you have to say about them?—I have been obliged to compile statistics so far as I can from particulars which were not designed to give the particular kind of information you require; but I can make a statement as to the nature of the more common diseases which produce sudden and severe illness in the streets and public places. What I have done is this. I was Medical Registrar of the Hospital last year, and I have taken last year's medical reports, which I prepared for the hospital, as a sort of basis, and I have gone through and made a list of the numbers of the cases which one can say fairly certainly ought to have been brought in ambulances. Then I can speak, of course, from my general impression and from what I know my experience has been in the hospital for five years.

2100. It is five years' experience?—Nearly five years.

2101. Will you tell us first of all as to the nature of the diseases with which you have to deal?—I think the cases with which we have to deal on the medical side are, first, cases of sudden hæmorrhage. The greatest number of these are possibly hæmoptysis, in which the blood comes from the lungs. I find we had 30 cases brought up during 1906.

2102. That covers the whole year?—Yes. Those 30 cases arrived, I am afraid I cannot tell you how, at the hospital. Cases of hæmatemesis, in which the blood is vomited, were also very numerous; and under this heading I have included cases of gastric and duodenal ulcers and severe hæmorrhage as the result of cirrhosis of the liver.

2103. Are those maladies which occur in sudden seizures?—Yes, they were brought up from the streets. I am not counting for the moment cases brought from their homes. There were 15 cases of those I have just mentioned in the year. Then, with regard to the other common cause of bleeding, cases of epistaxis, there were 38 cases; but I could not say that all those were serious.

2104. What is epistaxis?—Bleeding from the nose. The most important condition in the treatment of such cases is rest in a recumbent position, and these cases should most decidedly be removed to hospital in an ambulance. Unfortunately I am not able to give you any statistics which would show how many of these cases were actually brought in an ambulance. I can, however,

say in a general way, from personal experience, that a very large proportion of these cases are not brought in an ambulance.

2105. In that sort of case is rapidity of transit important?—Yes, I think greatly important. The patient is losing blood. The sooner they come the better; but it is also important to bring them as quietly as possible, and without movement in and out of a cab; you want to get them in a recumbent position and keep them so.

2106. Is there anything that ought to be done, any assistance that ought to be rendered at once by an unskilled or unprofessional person?—I hardly think so, because it is scarcely advisable. It is very undesirable, for example, that a stimulant should be indiscreetly administered.

2107. You would say get them into a recumbent position and keep them as quiet as possible and get them to the hospital as quickly as possible?—Yes. Another very important group of cases is made up of persons found in a condition of coma or unconsciousness. The more important causes of such a condition are cerebral hæmorrhage, cerebral thrombosis, cerebral embolism, diabetes, uræmia, and alcohol and the narcotic poisons, of which the commonest, of course, is opium. During 1906, seven cases of cerebral hæmorrhage were found unconscious in the streets and brought to the hospital. There was one case of unconsciousness from cerebral tumour and one from general paralysis of the insane. One case of opium poisoning was brought in from the street and one of coal gas poisoning; in two the unconsciousness was the result of uræmia. 31 cases of alcoholic intoxication were brought in, in a more or less comatose condition. In cases of cerebral hæmorrhage the most important point in treatment is absolute quiet and rest; movement of any sort is very undesirable. I should think there is hardly any case that it is more important to have a good ambulance service for. The slightest movement is injurious. Such cases very especially call for ambulance treatment, and, inasmuch as a diagnosis cannot be expected from the official in charge of the ambulance, it should be a rule to bring all cases of unconsciousness in an ambulance. Of course, it is not so serious in cases of intoxication and coma from other causes, but we cannot expect a person in the street to diagnose the cause of unconsciousness; they should all be treated with the utmost care until they are brought to hospital. I have no figures for 1906 relating to the transport of cases, but I should think not more than half these cases were brought in ambulances; and almost without exception the ambulance that we see at St. Thomas's is the wheeled ambulance, and nearly always the ordinary police ambulance.

2108. What have you to say about the police ambulance as regards the sufficiency of it from your point of view?—

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As I say, there are a considerable number of cases that do not arrive in ambulances, so there is not a sufficient number of them, and the objection to a hand ambulance is, I suppose, that it takes longer.

2109. There is a little controversy about that. It depends very much upon circumstances?—I am hardly in a position to discuss that.

2110. I was rather asking you, with reference to the ambulance itself, whether there is any remediable defect in the construction or equipment of the ambulances?—I have looked at them since I knew I was going to be here, and such as I have had an opportunity of seeing appear to me somewhat rough in construction. The wheels are tyred with solid rubber and the springs do not appear very good. I should think there is a good deal of unnecessary jolting and bumping in coming over the street. I have no expert knowledge of the subject, but I can imagine that a far more comfortable vehicle, which would cause far less jolting and jerking, should be possible. And there is in a horse ambulance, I take it, the advantage of speed, which is very desirable.

2111. It depends to a certain extent upon the distance from the place where the seizure or accident occurs to the hospital, does it not?—Yes.

2112. And the speed with which the ambulance itself can be brought there?—Yes. I do not think medical cases could with advantage be treated by First Aid by sending out a trained attendant or trained medical student.

2113. You would not recommend that?—I do not think so. For one thing the diagnosis of the condition is very often exceedingly difficult, and unless you sent out a qualified medical man more harm might be done than good, and anyhow it would be much better to get them as rapidly as possible to the hospital.

2114. You are speaking there of medical cases only?—Yes, I wish to confine all my remarks to purely medical cases. The only exception I should be inclined to make would be in cases of undoubted poisons, when innocuous antidotes might be given.

2115. Could that be done by a sort of general rule, by unskilled persons?—Yes, a table might be posted up with the common poisons and their appropriate antidotes. Many of the antidotes are of an entirely innocuous nature; still, there are certain risks attending upon that, of course.

2116. But you would not think that is of sufficient importance to justify the establishment of a system of sending out skilled persons, a student or duly qualified man?—No, I think not. Then I think it really comes to the severe medical casualties for which we require an ambulance: as persons with blood coming from the mouth and unconscious persons, and persons who have fits or convulsions.

2117. Do you think that cases of that sort are sufficiently capable of classification to enable the police authorities to lay down rules that where symptoms of a certain kind are present an ambulance should be used?—Yes, I think you could lay down very broad rules; including all persons who were bringing up blood, or cases of unconsciousness or of fits or convulsions.

2118. In those cases the ambulance should be used, whatever the nature of the ambulance is?—I think so. I do not very well see, taking the class of case that we deal with on the medical side, how very much could be done in the way of sending out a more or less trained person.

2119. I suppose there is a good deal of importance to be attached to the actual handling of the patient, his being carefully and decently put into the ambulance?—Certainly.

2120. That is a matter which can be taught to unskilled persons, I suppose?—Yes. I am afraid I have not got any very satisfactory statistics, but during the last fortnight I find that we have had six serious medical casualties. One was a case of carbolic acid poisoning which was brought up by a policeman in a cab. That was not a very serious case, and I have no doubt that the method of transport was ample in that case. Another was the case of a simple fainting attack, which was brought up in a cab.

2121. In a case of poisoning, of course, speed is of the first importance?—Yes, certainly. In cases of poisoning I incline to say that the swiftest means should be adopted.

2122. In that case was the poison actually taken in the street or did the symptoms show themselves in the street?—The symptoms showed themselves in the street.

2123. But what I was thinking of was that the policeman might hardly know whether it was a case of poisoning or not?—The man had it in a beer bottle.

2124. And was actually seen to take it?—Yes. Then the other cases were cases of fainting, brought in cabs; a case of intoxication, brought up in a cab; a case of Jacksonian epilepsy, brought up by two policemen with a hand ambulance; a case of epilepsy, brought up by the police in an ambulance; and a case of intoxication, brought up by the police in an ambulance.

2125. Have you anything to say about any of those cases?—No, I think they were very satisfactory, so far as they went. They were not cases of a very serious nature really.

2126. Have you anything else you wish to say?—What I wished to speak of, if I might be allowed, was the transfer of persons from their homes.

2127. We shall be glad to hear what you have to say about it. It is not strictly within our reference, but it is so closely connected with it that we think it desirable to hear what your experience is in that matter?—The great majority of cases dealt with by street ambulances are accidents, and, as such, are dealt with by the surgeon. When, however, you come to consider the case of patients whom it is necessary to remove from their own homes, you will agree, I think, that the position is reversed. A large number of cases which are admitted to the surgical wards of a hospital are well able to come by cab or public conveyance, I mean of patients that come up from their homes. The patients who are admitted to the medical wards for the most part are acutely ill at the time of admission. I think it is true as a general statement that for them some effective method of transit is urgently needed. It is extremely difficult to produce any exact figures to bear on this subject, for no record is kept of the manner in which patients are brought to the hospital by various modes of conveyance. I have taken the Medical Report of St. Thomas's for 1906 and I have selected certain diseases. The diseases selected are of such gravity that it is fair to say that all patients suffering from them should have been, if possible, removed in an ambulance, or nearly all of them. I have counted the number of patients who suffered from each of these diseases, and in every case I have deducted the number of patients whose age was less than 10 years. My reason for so doing is that I think that small children may very well be brought to hospital without an ambulance, or, at any rate, an ambulance is not so absolutely essential in their case. I think it is fair to deduct the cases of infants in making any statistics, because they can be carried up fairly easily or carried by their parents in cabs or conveyances. I have only picked out those diseases which are common. There are many other instances of rarer diseases which required ambulance transport during 1906. The figures, with the number of children under 10 years of age deducted, are as follows: (I think these cases are fairly selected as severe cases.) There were 22 cases of enteric fever, which it would have been very desirable to have brought up in an ambulance. In the case of diphtheria, when we have deducted children (and we do not get any except children as a rule) we have only two. There were 109 cases of acute rheumatism; it would have been very desirable to have brought those up in an ambulance. There were 4 cases of acute tuberculosis, 5 of caries of the spine, 83 cases of lobar pneumonia, 4 of broncho-pneumonia (of course I deduct children in that case), 23 of pleural effusion, 17 of empyema, and three of pericarditis. Then various chronic heart diseases I also give because, owing to the very small accommodation that all general hospitals have in proportion to the patients they might take in, cases of heart disease are not taken in unless they are very severely ill. But the various sorts of chronic heart disease mount up to 97. There were 11 cases of ulcerative endocarditis, 16 cases of gastric ulcer, 6 of duodenal ulcer, 15 of perforated gastric ulcer, 6 of perforated duodenal ulcer, 18 of intestinal obstruction in adults, 155 of acute appendicitis, 14 of cerebral hæmorrhage, and 7 of cerebral thrombosis. That makes up a total of 617 cases in which it is fair to say it would have been a good thing if they could have been brought in an ambulance.

2128. In what period did you say?—In a year. I do not think anyone would quarrel with this list on the ground that cases had been included which did not need ambulance transit; the figures add up to 617 and this number represents the least number of cases which should have had ambulances to bring them to the hospital. Some of these cases may have been very slight. On the other hand I have excluded very many other cases.

2129. Are those cases in which, on a proper view of the necessity, any authority that had an ambulance maintained at the public expense would be justified in sending it?—Certainly.

2130. It would be in the interest of the public that it should do so?—Yes, I think so, certainly. The total

number of in-patients who were discharged or died during 1906 in medical wards at St. Thomas's Hospital amounted to 1,894, and from this it appears that about one-third of the cases would have been better for having an ambulance. As to how they did arrive I can, unfortunately, give you no figures, but I can give you the figures for the last two weeks. 84 cases were admitted to the medical wards, 2 came in a horse ambulance from their homes, 8 came in four-wheeled cabs, 3 in hansoms, and the remainder came by tram or walked.

2131. Really, I suppose the poorer classes are in that respect better off than the better classes, are they not, because they have ambulances which are available?—I do not think so.

2132. You may send a pauper not to a hospital but to an infirmary or workhouse in an ambulance, while there is no such ambulance available for a shopkeeper, say?—I do not think there is any ambulance available for taking people from their home, without payment, unless they have got an infectious disease.

2133. Or unless they are paupers. They can then be taken.

By Sir William Collins.

Not from the home to the hospital.

By the Chairman.

2134. To the workhouse or infirmary. There is an ambulance available to bring them within reach of medical aid?—I am not sure about that. The majority of our patients come by tram, I think, or walk to us or get there as best they can.

By Sir William Collins.

2135. Do any of them come by the ambulances of the guardians?—I do not think so, they come occasionally in a cab. Something can be done in a four-wheel cab by putting boards across it. But the serious thing is getting in and out of these vehicles, where you have to lift a person. At the present time I admit nearly all the medical cases to the hospital myself—the large majority, at any rate—and I have ample opportunity of judging of the condition of those who come to us. The patients walk into the hospital and from the moment they arrive under medical supervision they are placed on a trolley and conveyed with the utmost care to the ward and lifted gently on to the bed.

By the Chairman.

2136. May we take it that, looking at it from the medical point of view, your opinion is that there is very considerable need of greater facilities?—Enormous need.

2137. For bringing people from their homes to hospital by some form of ambulance, and that that is more important because there are a great many more of those cases than of cases of seizure in the streets?—Yes. I should be inclined to think it is the exact converse of the view that the surgical side might take of it. Their more serious cases are street accidents very often. Then it sometimes happens, where a hospital is very full, that even a very urgent case cannot be admitted and has to be sent to another hospital. Cases not infrequently reach us which have been to several hospitals, and have on several occasions been helped out of the cab and back again. That is a thing which, if a horse ambulance is available at the hospital, need not happen more than once.

2138. Or some improved means of communication?—Yes, it would be some small advance to make sure that the second journey would be made in comfort.

2139. Still, that goes into a question which is rather beyond our scope, as to general hospital organisation?—Yes.

2140. But we shall be very glad indeed to get your view upon that point?—I have a few more particulars if you wish to have them.

2141. If you please?—I thought that it might be useful to you in considering this matter to know approximately the distances from which patients come to us. I have found a record of the results of an enquiry made in the Steward's Office in 1899, as to where every patient in the hospital came from. They took a day and investigated the addresses of all the persons in the hospital on that day. The general result was that about a quarter of the patients came from the Borough of Lambeth, the most distant part of which from us is about five or six miles. An enquiry made this year produced practically the same result, but these figures include both medical and surgical patients, and it must be remembered that surgical patients come in

greater numbers from a distance to London to have operations done. A surgical ward always contains a number of people who have to come to London to have an operation performed. Comparatively few of our medical cases come any great distance. I have investigated the districts from which urgent medical cases reach St. Thomas's Hospital, and I selected, over a period of four years, some diseases which I think anyone will say ought to have been brought in an ambulance. They were cases of perforated gastric ulcer, perforated duodenal ulcer, acute intestinal obstruction in persons over 10 (excluding cases of intestinal obstruction in infants), and appendicitis cases. There were 244 cases of acute appendicitis, in which I have been able to trace the patient's address. Of those, 124, exactly half, came from the south-west district of London, Lambeth, Battersea, Walworth, Bermondsey and so forth. I have got the figures there. 124 came from the south-west of London immediately near us; 12 only came from London north of the river, and 12 came up from chiefly Surrey stations on the South-Western Railway. Out of 27 cases of acute intestinal obstruction in persons over 10 years of age, 22 came from our own immediate district, 1 only from the north of London, and 4 came up from places on the South-Western Railway—from Surrey chiefly. Of perforated duodenal ulcers we had 6 cases; 4 came from our district, 1 from the north of London, and 1 from the country, in Surrey. Of perforated gastric ulcer we had 15 cases; 14 came from our own district and 1 from the north of London. The enormous majority of our medical cases, it will be seen, come from the south-west district of London, and these cases might be very advantageously brought to us by a horse or, better still, a motor ambulance. Then one other small point strikes me which I should like to mention, that the majority of our country patients come, as you may suppose, from the part of the country which is served by the London and South-Western Railway Company, and it would be an advantage if a patient could be brought from Waterloo to St. Thomas's by an ambulance.

2142. There are some railway ambulances, are there not? I do not know whether the London and South Western Railway Company have one?—I do not think it is generally available without payment. It is not very frequently used; I do not remember having seen it, and we are not very far from Waterloo. But that, I think, would be an obvious small improvement, without going so far, perhaps, as arranging for every patient to be brought from home. Many hospitals are adjacent to the chief London stations, and probably they draw the bulk of their country patients from that source.

By Sir William Collins.

2143. Do I rightly understand that you have been five years Resident Assistant Physician of St. Thomas's Hospital?—No, my connection with the hospital in all is only five years.

2144. How long have you held the post of Resident Assistant Physician?—Since the beginning of April. Previously to that I was Medical Registrar for a year.

2145. For how long have you been responsible for the Statistics which you have laid before the Committee this morning?—I was appointed Medical Registrar and began my work in January, 1906, and, of course, before that I was House Physician, and saw a good deal of casualty work.

2146. So that it is in your capacities as House Physician, Registrar and Resident Assistant Physician which I understand, collectively, have extended over five years?—No.

2147. Please let us get it accurately?—I have been at the hospital in all about five years. The first two years of that time as a student, and the rest of the time holding various appointments.

2148. Then it is as student, as House Physician, as Registrar, and as Resident Assistant Physician, extending over five years, that you have collected the information that you have placed before the Committee this morning?—Yes.

2149. Do your figures deal with in-patients only, or with in and out-patients?—Almost entirely with in-patients—these latter figures entirely. The majority of medical casualties are admitted as in-patients.

2150. But would there be cases of medical casualties which would be dealt with from first to last as out-patient cases, which might have been benefited by the employment of an ambulance?—Yes, I think there are, certainly. We do not take in cases of simple epilepsy as a rule, and I think they ought to be brought in ambulances. In the first place, it is the most convenient method of bringing

Mr. H. R. Dean.

them, and in the second place you cannot expect a constable or other person in charge of the ambulance to differentiate ordinary epilepsy from the more serious conditions which produce convulsions and fits. Then cases of epistaxis may be very serious for the time being, but we do not necessarily admit them; it is possible to control the hæmorrhage and they go out again.

2151. That is the class of cases I was rather thinking of, which, if dealt with promptly, might be merely out-patients and not require additional treatment?—The majority, of course, are taken in.

2152. Then with regard to cases of hæmorrhage and coma, which you mentioned first, I understand that in regard to those cases you thought the important thing was quickly and carefully to remove them to hospital?—Yes.

2153. First Aid in such cases I understand you to regard as almost superfluous, or impossible?—I do not think there is anything to be done in those cases except to get them to bed and then treat them. That is the sort of thing I should like to do—get them into bed as quietly and quickly as possible.

2154. A case of blood issuing from the mouth might itself require somewhat elaborate diagnosis to lead to appropriate treatment?—Yes.

2155. Which you could hardly expect of a constable?—No.

2156. And in regard to coma also a nice discrimination is required?—Yes, you cannot readily differentiate. It is exceedingly difficult to differentiate between intoxicated persons and persons suffering from coma from more grave conditions.

2157. Did you tell us what proportion of these cases of hæmorrhage and coma arrived at St. Thomas's Hospital in ambulances?—I am afraid I cannot do that. I only started to make this enquiry about a fortnight ago. No record has been kept of how they arrived. I have no statistics.

2158. At the present time do you see cases of hæmorrhage and coma arriving at the hospital otherwise than by ambulances?—Yes, I do.

2159. And brought by the police?—I do not think so. I think the police always bring them in an ambulance.

2160. A hand ambulance?—Yes, always a hand ambulance.

2161. Do you think that these cases of hæmorrhage and coma would be more likely to be successfully treated if they were brought by a more rapidly moving ambulance than the present police hand ambulance?—I think so, certainly.

2162. You see a good deal of the Metropolitan Asylums Board ambulances, I suppose, for the purposes of removal of infectious disease?—Yes.

2163. Have you ever known them utilised for bringing cases of medical casualty to the hospital?—They are never utilised in a case of casualty, I think. I have known them occasionally employed for bringing patients from their homes. I believe it can be done. The Metropolitan Asylums Board, I believe, will provide them.

2164. How many cases of that sort have occurred in your experience?—One occurred the other day.

2165. Quite recently?—Yes. My difficulty, of course, is that my attention was never called to the matter until recently.

2166. I understand you to say that you have never known any case of a horsed ambulance belonging to the Guardians being utilised for bringing medical cases to St. Thomas's?—I do not remember such a case. Until lately it would not have occurred to me to go out and see what ambulance brought a case. The really serious cases with us are the medical casualties that occur in their own homes, such as gastric ulcer perforated, and duodenal ulcers perforated. Those are the people we should like to get in ambulances.

2167. I suppose that a case of a perforated gastric ulcer put into or removed from either a hansom or a four-

wheeler would be as undesirable an operation as could be imagined?—I remember a case the other day of a servant-maid who was taken ill, during the absence of her mistress, in a flat; the owners of the adjacent flat found her after some time and very kindly drove her off to their own doctor, where she was taken into his consulting room and examined by him, and he said she must be taken at once to the hospital. She was driven off to the hospital; they had not got a bed; she waited there a little time, and then was again taken in a hansom and finally brought to us.

2168. Did you see her removed from the cab?—I did not see her removed from the cab; they sent for me at once, she was in the room by the time I got down. She did not do very well, and she might have done badly in any case. But that was a most undesirable state of affairs. Then I can cite another instance. A case of appendicitis came up from Weybridge, I think it was, anyhow some distance off. It was sent up to us. He came up by train, and I think he walked from Waterloo. When I saw him I thought it was a perfectly localised appendix abscess, and so I have no doubt it would have been if he could have been brought up in an ambulance; but that night he developed sudden pain and died of general peritonitis. I have very little doubt that the shaking he got on the railway journey was responsible for the rupture of the abscess. The whole thing looked like it. He was operated upon at once and was in the condition that the abscess had diffused over the entire peritoneum, and one felt that the journey up in the train and walking from Waterloo must have contributed to it. There are plenty of cases of that sort which it is obvious should be brought to us in an ambulance.

2169. Cases where suitable transport might have obviated dangerous complications?—Yes. Of course some people, if taken suddenly ill, make efforts to get home, and do not realise the seriousness of their condition, so that many cases of perforated duodenal and gastric ulcers and acute intestinal disease of that sort which one would like to be brought straight up to the hospital, in which very often the patients are taken ill in factories or in the street (usually you find from the history that something of the sort has occurred), have generally managed to get home first, so that these cases do not appear as street casualties. If a man breaks his leg he is brought straight up to the hospital, because it is obvious to himself and everybody that he must be treated at once; but if he has a sudden pain in the abdomen I suppose he hopes it is merely colic, and makes an effort to go home and wait. But, nevertheless, the need for an ambulance is just as great to bring him from his home to us.

By the Chairman.

2170. Just to clear up one small point with regard to the Metropolitan Asylums Board ambulances being used for infectious cases, and these other cases, too. I think the evidence before us has been that they are careful to keep the two classes of ambulances separate?—Is that so?

2171. You have no personal experience of that?—No. My difficulty all along has been that I never contemplated that I might be called upon to answer these questions. As it happens, no record is kept of how patients come in.

By the Earl of Stamford.

2172. How do you think that case of appendicitis from Weybridge should have been dealt with? Should it have been brought by an ambulance the whole way?—I do not know what is to happen about those cases which happen right out in the country. I think the only satisfactory treatment of them would be first-class surgical treatment at local centres; I do not think there is any other way out of it. That is quite another matter. But still, under existing circumstances, when numbers of cases are brought up to us on the South Western Railway to Waterloo, I think it would be a step in advance if we could have an ambulance to bring them from the railway carriage to us with a minimum of shaking and movement.

By the Chairman.

2173. I suppose you have not considered the actual merits or demerits of conveyance by motor ambulance?—I do not feel that is a subject I could speak to. I do not know enough about it. I think it is more a question for somebody who has studied ambulances.

MR. R. S. WOODS, M.B., M.R.C.S., called in and examined.

By the Chairman.

2174. You, I think, are Receiving Room Officer at the London Hospital?—Yes.

2175. In the Receiving Room you see the patients who are brought in?—Yes. There are six Receiving Room Officers, of whom I am the senior. We see all the cases brought into the hospital for the first time.

2176. How long have you occupied that position?—Six months; it is a six months' appointment.

2177. Were these Returns from the London Hospital prepared under your supervision?—No; I have no supervision over any other men. They were prepared quite independently by the six Receiving Room Officers. (*These Returns are not printed in Appendix I.: Returns were furnished subsequently which appear in Appendix I., p. 50.*)

2178. Then will you tell us your own experience during those six months?—Might I begin by saying that it has been absolutely impossible to prepare valuable statistics retrospectively of cases brought up, and I should suggest that, say for two months, there should be a system of preparing statistics by one man in the Receiving Room—a man with no other duties in the Receiving Room but to prepare these statistics, because I think that if they are prepared independently by six men a great many cases are liable to be forgotten. I know, as a matter of fact, that that has occurred with regard to these statistics which have been furnished.

2179. I need not say that we shall be very glad of any assistance of that kind which can be given. Speaking for all the members of the Committee, I may say that we attach very great importance to the actual experience of those who see the different cases brought in and whose attention is called to the particular points that are most material?—I can only give the result of my own impressions during the last six months.

2180. Will you proceed to do that, if you please, in your own way? Your first point, I see, is as to First Aid. Would you say that it is efficiently rendered?—I should say that the First Aid was efficiently rendered in all cases which required it. As a matter of fact, my experience is that First Aid with regard to the cases which are brought up to the Receiving Room is very rarely required. I have been thinking over it, and I can only think of cases of fracture and hæmorrhage, and possibly poisoning, in which it would be required—I mean First Aid by the police. I think the best thing that can be done for fractures is simply to fix the limb that is fractured—not to remove any of the clothing.

2181. In cases of hæmorrhage I suppose you must get at the place to stop the hæmorrhage?—Yes; but in all cases included in these statistics the First Aid was quite efficiently rendered where required. The time elapsing between the occurrence of the accident and the arrival at hospital when recorded was short—quite reasonably short.

2182. You are speaking now of the cases within a period of one week from June 4th to June 11th, or are you speaking of your experience generally?—I am speaking definitely of cases occurring during the fortnight included in the statistics, and of my own experience generally.

2183. You have been six months in the Receiving Room where you have seen, as I understand, the patients actually brought in?—Yes.

2184. And you have seen their condition at the time?—Yes.

2185. And you have seen the way in which they have been treated?—Yes.

2186. And I suppose you have made yourself acquainted generally with the nature of the accident in each case?—Yes.

2187. And the place where it happened?—No, not generally the place where it happened, that has nothing to do with us.

2188. Would you not enquire how many minutes had elapsed?—No.

2189. So that you cannot give us approximately an idea of the time which it had taken to bring the patient to hospital?—My own experience as to that is that I enquire in half the cases—certainly not in all. I only enquire in a case where I think it is important to know. But, if it is admissible evidence, I have enquired from all the medical men at the hospital who I think could give me any information, and from the Sister in the Receiving Room, who has had five years' experience there, and from the clerks at the desk, and their opinion is that in no case has a patient ever been brought up in such a condition as has prejudiced his chances of recovery. Of course it may possibly have done so, but this was not actually proved to have occurred.

By Sir William Collins.

2190. Whose opinion is that?—That is the opinion of all to whom I have spoken in the hospital, and the Sister in the Receiving Room, who has had five years' experience, and the clerk at the desk, who takes the names of all cases. There is one exception, namely the case of a man with a fractured spine, who was carried across the garden by four men. That is the only case that any of them could remember.

By the Chairman.

2191. There have been no cases of broken legs having been brought in cabs, or of simple fractures being turned into compound fractures, as has been suggested to us?—None that they could think of.

2192. What exactly is your own duty. You see the people brought in; do you examine them and diagnose the cases?—The cases are brought first to the Receiving Room where they are divided into three classes: First, cases not to be treated further, but which receive, say, a dose of calomel; secondly, cases which are not sufficiently ill to be taken into the hospital and are sent to the Out-Patient Department; and, thirdly, cases which are admitted at once. We see all those cases and we diagnose every case to the best of our ability.

2193. Is the object of your diagnosis to decide what the character of the injury is and the gravity of it and how it should be treated generally, or do you prescribe the treatment? If you consider that a patient is one who ought to be admitted into the hospital, do you proceed further than that?—We diagnose the condition so far as we can, and if we think that the case can go to the wards safely without further treatment the case is sent at once to the wards: but in the case of a fracture the limb is always fixed before it is sent in.

2194. In a case of fracture you would see the actual condition of the patient?—Yes.

2195. And how he has been treated, and what is necessary to be done in the first instance?—Yes, always.

2196. Taking the case of fractures, what is your general experience as to what has been done in the way of First Aid?—My experience has been that the First Aid, when required, has always been efficient. I have never, for instance, known a case myself of a fracture which had begun as simple being made compound by the mode of conveyance. It is possible that it may have occurred, of course.

2197. Can you tell us how the majority of the patients are brought to the hospital who have suffered serious injuries, whether they have been brought in litters or in cabs?—Are you referring to cases occurring in works and in the street?

2198. Take it quite generally. You see a good many of both?—I have not thought at all of cases brought up from their own homes.

2199. No, we had better leave them out altogether, because they are outside our reference. Confining yourself to street accidents—and I suppose you get a good many dock patients?—Yes, a good many. I should say that the majority are brought up on litters by the police.

2200. Are many of them brought in on the dock ambulance?—I am not acquainted with the dock ambulance at all.

2201. We are told that they have something like the police litter, but rather better?—I am afraid I can give you no information about that. The third point under that heading is that with regard to the cases included in the statistics there was no vital need for a doctor or trained medical attendant with the ambulance in any of the cases. That, of course, only refers to the cases included in the statistics.

2202. You mean the cases in the Table which we have before us?—Yes, which I think extends over a fortnight.

2203. Have you the Table before you now?—Yes. These are not representative cases, of course.

2204. These are simply cases which have occurred in that fortnight or is it not a week?—Yes; they seem very slight indeed; comparatively slight compared with the cases that we deal with in the Receiving Room.

2205. I see that there was a case of compound fracture of the skull brought in a pony barrow, in 15 minutes. Would this return be about an average week's work?—I am afraid there would not be more than 20 per cent. of the cases brought up on litters or ambulances included in this Table, simply for the reason that I mentioned,

Mr. R. S. Woods.

that a great many cases escape one's mind at the moment as being cases for this Committee, because the work was divided over six men at different times, and I am afraid that one did not always think of the Committee when a case was brought up.

2206. So that there might be a good many omissions ?—Yes, a great many.

2207. That is the reason why you say that you do not think we should get satisfactory statistics unless somebody is told off especially to do that work ?—I am certain of it.

2208. Because their attention is diverted by other duties ?—Yes. Our maximum number is 1,148 cases between 10 o'clock in the morning and 10 o'clock at night, and I understand that the average per day is over 900. Those are only the cases that come up and are seen in the Receiving Room. There is an infinite number of cases dealt with elsewhere—cases come constantly to the Out-Patients' Department which have, of course, been to the Receiving Room, but no case is supposed to come to our Receiving Room more than once. The cases are divided into three classes: cases that are told not to come back, cases that are sent to the Out-Patients' Department and never come to the Receiving Room any more, and cases that are admitted. Of those three classes the maximum is 1,148 for one day for the last five years, and the average is over 900 I believe for last year.

2209. So that the attempt to give the statistics in the way which was tried gives a very incomplete result ?—Very incomplete. My evidence is entirely unstatistical—it is simply my own general impressions and the impressions of people to whom I have spoken about the subject. I have looked over all the books in the Receiving Room in which cases are entered, and it is quite impossible to collect statistics that will be of any use to you whatever. There are three books, one for slight and non-urgent medical cases, that is, medical cases which are either sent away altogether, treated in the Receiving Room, and not supposed to come back, and medical cases which are sent to the Out-Patients' Department: a second for slight and non-urgent surgical cases, *i.e.*, minor casualties, say a cut finger, which are dressed in the Receiving Room and told not to come back, and surgical cases which are sent to the Out-Patients' Department for further treatment: and a third book for all cases, medical and surgical, which are admitted to the hospital. Thus all types of cases are mixed up. In the surgical minor book, septic fingers, slight bruises and fractures are all mixed up one after the other, and many of these may be brought up by the police with a slight cut finger or a fracture and sent to the Out-Patients' Department.

2210. Then you will give us your own experience apart from this question of statistics ?—The second point is the number of cases brought up from the streets or from works per annum. That, it is quite impossible for me to deal with in a statistical fashion: I can only give you my own impression. I have a note that there is no record kept from which it is possible to furnish such statistics, and I think this applies not only to the number of accidents but also to the method of conveyance. One never enters the method of conveyance except in one's own memory. There are two clerks at the desk who take the name of the patient, the age, the nature of the injury, the nature of the ailment, and then there are three separate columns as to whether they are sent either to their home or to the Out-Patients' Department.

2211. You have had six months' experience of this vast number of people being brought in. What do you think is wrong or remediable in the way they are treated ?—Personally, I have thought over it and I cannot think of one case whose prospects of recovery have been prejudiced by the way they have been brought up. There have been cases which ought not to have been brought up as they were, but as a matter of fact their recovery was not prejudiced. I think there should be no such thing as cases being brought up from the streets by the police in a cab or sitting up. There are cases which might be brought up safely in that way, but I do not think the police ought to be allowed discretion as to which cases can and which cases cannot be so conveyed. I suggest that they should all be brought up in a lying position. And as regards the two methods of conveyance, the street litter and the motor ambulance, I think if the motor ambulance can be made as smooth as the street litter it is the one that ought to be used in all cases, simply because it naturally takes much less time, and there is, practically speaking, no limit to the distance from which cases of accident are brought to the London Hospital.

2212. As a matter of fact, are they brought from great distances ?—Yes. Westwards they have to pass St.

Bartholomew's and Guy's. They do not come from very far there. But northwards and eastwards in London there is no limit. I have known them come from Muswell Hill in the north (accidents I am speaking of), and from Woodford in Essex.

2213. How do they come up from Woodford ?—One I know of (it was a gun-shot wound that occurred at Woodford) had been treated by a doctor and was brought up in a cab. It was a gun-shot wound in the leg. The patient died, not from hæmorrhage but from shock. That case, of course, ought to have been brought up lying down.

2214. You would allow no discretion to the police. You would say that every case ought to be brought up lying down ?—Yes, I have thought over that. I should say that every case ought to be brought up lying down. There are cases where the sitting posture is better, for instance, cases of epistaxis, but I do not think it would do them any harm, and for the sake of the cases which certainly ought to be brought up lying down there ought to be a general rule that all cases should be brought up lying down.

2215. You must look a little at what is practicable. You have to deal with an enormous number of accidents every day, as you have told us. You would increase to whatever extent was required the means of having some form of ambulance which would bring people lying down ?—I am afraid I do not quite understand.

2216. If you are to bring all accidents, to whatever part of the body, of whatever nature, whether severe or trivial, lying down, that would require an enormous extension of vehicles ?—Yes, I see the difficulty.

2217. You are looking at it entirely from the surgical point of view ?—Yes. I would not include cases that were obviously trivial.

2218. Then there must be some judgment exercised ?—Yes.

2219. You laid it down just now, I think, that you would leave nothing to the police at all ?—I should leave discretion to the police whether the case was fit to walk up or to be brought up, but if they ought to be brought up they ought all to be brought up lying down.

2220. Take the case of a broken arm ?—The patient would be quite fit to walk up.

2221. Or to come in a cab, it would not necessarily injure it to come in a cab ?—No, it would not be injured in a cab.

2222. There would be a great difference, I suppose, between a broken arm and a broken leg ?—Yes, a good deal.

2223. Do you think it possible to classify the injuries in such a way as, within certain limits, to give the police a sort of working rule to go by, such as that injuries to the lower limbs or injuries to the head must always be brought up in recumbent position, whereas in the case of injuries which are apparently slighter it is not necessary ?—Yes, I think it could be done. I am afraid I have not thought over it, and I could not suggest a classification at the moment.

2224. However, you admit that some amount of discretion as to whether the injury was slight or severe must be left to the police ?—Yes.

2225. In your experience has there been much mischief caused by delay in bringing patients to the hospital ?—None whatever, so far as I could learn from my own experience and from asking others. I am referring, of course, to cases occurring in the streets and in works which have not come up of themselves. Naturally, there has been a great amount of harm done in the case of patients who have not been brought up from their own homes until too late.

2226. Have you ever paid any attention to the character of the police litters and the condition of them ?—I am afraid I have not, but I have enquired, and find that they have always been clean so far as they have been noticed. That is the worst of taking retrospective evidence with regard to a hospital like the "London." I do not think that it is at all valuable except as a general impression.

2227. What you think, I understand, is really desirable is that somebody should be responsible for collecting, from cases occurring in a given period, facts upon the points which are now known to be material ?—Responsible for that and for that alone as regards the Receiving Room, I think. I do not think they ought to have any other duties in the Receiving Room. The last point is as regards communication between police stations and hospitals. So far as that concerns us it is quite unnecessary. There

is no such thing at the London as no beds. I can state positively that no case has ever been sent away for lack of beds. We have a system there by which one man on the surgical side and one man on the medical side, the corresponding House Physician and House Surgeon, take in for a fixed period, three days, or four days, in each week. If one House Surgeon who is taking in has all his beds filled he simply borrows from another House Surgeon a bed, so that there are no cases sent away for lack of beds.

2228. You have accommodation enough really for all possible cases?—Yes.

2229. Take the maximum of 1,148, all the urgent cases of those could be taken in if necessary?—Yes. I say that no accident that ought to be admitted to hospital is ever sent away because there are no beds. That is the extent of my evidence, I am afraid. As I say, it is not at all statistical.

By the Earl of Stamford.

2230. I see you lay no stress upon a trained professional attendant going with the ambulance. You consider it sufficient that there should be some attendant to help in lifting the injured person into the ambulance, I suppose?—You mean trained professionally?

2231. Yes, trained professionally as a surgeon or medical man. You see no particular need that such a trained professional attendant should accompany the ambulance?—I am looking at it from the point of view both of efficiency and economy. It struck me that the expense incurred of having a doctor there, a qualified medical man, with every ambulance would not be repaid.

2232. In fact, instead of bringing the hospital to the patient, it is better to bring the patient as quickly as possible to the hospital?—I think so.

2233. At the bottom of the first page of the return, in the case of a compound fracture of the leg being brought in a litter, and the case of broken leg (severe) brought in an ambulance, just above, you do not think that any injury had been suffered by the patient being brought in a litter in this case? So far as you are aware there was none?—I have no personal knowledge of that kind, but in all the cases returned in these statistics it was expressly said that First Aid, where rendered, was efficient, and that, so far as was known, no prejudice had been done to recovery by the way they were brought up.

By Sir William Collins.

2234. I understood you to say that, in your opinion, any street casualty which was unable to walk to the hospital on his or her own legs ought to be brought lying down?—Yes, I think so.

2235. On an ambulance?—Yes.

2236. Why?—I think that the number of cases that ought to be brought lying down so far exceeds the number that might safely be brought sitting up, and seeing that one cannot really allow the police discretion as to whether they ought to be brought lying down or allowed to sit up, a general rule ought to be made for all cases that have to come up in that way that they should be brought up lying down.

2237. I understand that, but why in the majority of cases ought they to be brought lying down in the ambulance?—I am only giving you my impressions and my experience of six months that, of the cases brought up, the majority ought to have been brought lying down.

2238. But why? Is it because if they were not so brought their prospects of recovery might be prejudiced?—Yes.

2239. Or that they might suffer pain?—Yes.

2240. So that, in so far as that recommendation of yours is not carried out, there is opportunity for either avoidable complication or unnecessary pain to ensue?—I think so.

2241. You told us that in cases where First Aid was required it was efficiently rendered?—Yes.

2242. But I rather gathered you to intimate that it was only in a very small proportion of cases that First Aid was required. Is that so?—No. I should say in a limited type of cases. I should almost exclude from First Aid everything except treatment of fractures and stopping of hæmorrhage.

2243. In all other cases you think First Aid is not required?—I think so. I have not gone into all the cases, but that is my impression.

2244. And what is the nature of the First Aid which you think is required in cases of fracture and in cases of

hæmorrhage?—I should say in cases of fractures, say the fracture of a limb, it ought to be confined to fixing the limb and putting the limb in a fixed position.

2245. With sandbags or splints, or what?—Sandbags if they were efficient; I do not think they would be. I should say a splint.

2246. If your other proposition were carried out, that all cases unable to walk were brought lying down, what additional precautions would be required in cases of fracture?—In the case of fracture of a lower limb, or even of possible fracture, I should suggest a splint. I do not think a patient, unless he is obviously losing a lot of blood, ought to be undressed by the police for the purpose of diagnosing whether there is a fracture or not. I think that in the case of an obvious or possible fracture of the lower limbs the police First Aid ought to be confined simply to fixing the limb by a splint. I mean by anything that can be used as a splint.

2247. But the less the limb which is supposed to be fractured is moved about in the course of transit to the hospital, the better?—That is entirely my view.

2248. When does the patient first come under your observation, is it in the Receiving Room?—In the Receiving Room.

2249. You do not see their removal from the ambulance?—No.

2250. Would it be easy to tell in the case of a compound fracture whether the fracture had been rendered compound by the original accident or by the means of transport employed?—I should say not. I mentioned that it was possible that a fracture which had begun as a simple fracture had been made compound by the way it was brought up, but in no case had we been able to prove it.

2251. Or to disprove it?—Or to disprove it.

2252. Then I understood you to say that no case at the London Hospital had ever been sent away for want of a bed?—They have never been sent away really for want of a bed.

2253. What is the total number of beds at the London Hospital?—I think 936, certainly over 900.

2254. Has it never been full?—That I cannot tell you, but I have been told that it never has been full.

2255. There is always a margin of available beds?—Always I think. I have been holding qualified appointments at the hospital since January, 1905. I have held five appointments there, and never to my knowledge has the hospital been full.

2256. Is it the practice at the London Hospital to refer many cases to the Infirmary?—A good many cases are sent to the Infirmary, but no case that ought to come into hospital, that is really a hospital case, is ever sent away for lack of beds.

By the Chairman.

2257. You have never known it in your experience?—I have never known it in my experience. It is a point that I have been interested in, because I am more or less proud of the fact that the hospital has never refused a case, and I have often asked others if they had ever known a case of refusal really for lack of beds and they have said, No.

By Sir William Collins.

2258. What do these statistics, to which you have alluded, purport to show?—So far as they are valuable (of course they are only a small percentage), they show that in that fortnight (I see here it is a week) no case had been prejudiced either by the time taken between the time of the accident and the arrival at the hospital or by the method in which it was brought up. That is to say, within our knowledge no case has been prejudiced. Of course, there the case of the compound fracture comes in; it may possibly have been made compound by the way it was brought up.

2259. The cases were not apparently all brought according to your approved method?—No. I said in suggesting it that there was an opportunity for doing injury to the cases, but of course, as a matter of fact, here no harm had been done, although some were brought walking or sitting.

2260. So that retrospectively you are not in a position to say whether harm was done or not?—As regards these cases included here I think one is in a position to say that to our knowledge, so far as our knowledge went, no harm had been done. Of course, as regards my previous experience of six months your statement would apply; that retrospectively I am not able to tell.

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2261. But I did not mean retrospectively so much as regards the period of time, but as regards the individual case. Would it not be necessary, in order to speak with precision as to whether any harm had resulted in any particular case by means of the transport employed, to have witnessed the case from the time of the accident to the time of arrival at the hospital?—Naturally.

2262. These cases are 19 in all that you have dealt with over a period of one week, as it is here, I understand you to suggest a fortnight, but I have it here as one week, from June 4th to June 11th?—I am afraid I thought there were 24.

2263. Clearly 19 cases cannot be all the serious accidents brought to the London, even in a week?—No. I know, as a matter of fact, that several were missed out that one had not thought of at the time as relative to this enquiry, but which were thought of afterwards when it was too late.

2264. On what principle was the selection of the 19 made?—All the cases which were brought up in any conveyance from the streets or from works to the hospital during that time, with the exception of those forgotten.

2265. Then those that may have been forgotten may have been a very considerable number?—That is what I say. I do not think these cases are of any use at all.

2266. It surprises me to see, for instance, only two cases of broken legs brought to the London in a week or a fortnight, whichever it may be; would it not surprise you?—Very much.

2267. Then I understand you to suggest that a better mode of getting statistics would be for one man to prepare them, and not some six or seven different persons who are doing other work at the same time?—Yes.

2268. Probably you would agree with me that the imposition of additional clerical duties in connection with casualty work is difficult and embarrassing?—It is partly that, but really in our Receiving Room sometimes there is such a rush that one cannot think of anything except the treatment of the patient.

2269. Is not that another way of putting the same thing?—Yes.

By the Chairman.

2270. I should just like to understand a little more about what happens in the Receiving Room. We will get away from statistics altogether and go to your own experience. I suppose many injured people are brought in by the police?—A good many.

2271. Then would you, in order to form your judgment about the gravity of a case, see the policeman?—Yes.

2272. And ask him about the circumstances of the accident?—Yes, as a matter of fact the policeman always takes the name of the doctor who attends to a case brought up by him. And he generally sees the doctor who saw the case personally.

2273. You mean the doctor at the hospital?—Yes.

2274. Then, I suppose, the doctor would consider it part of his duty, in order to understand the case thoroughly,

to make enquiries about how the case had happened, and so on?—Yes, in all cases where the doctor considers it necessary he asks for information of that kind.

2275. Would he not also enquire about the mode of conveyance sometimes, in order to be able to see how the apparent injury had arisen?—I am afraid not always.

2276. I do not say always?—He might.

2277. I merely want to see how far you can carry us in the points you have been considering. Supposing you thought that probably an accident had been aggravated by jolting in a cab and so on, would you, in the ordinary course, make some enquiry as to whether that was the case or not?—I cannot honestly say that one would.

2278. You only look at the thing as it comes in?—Yes.

2279. It does not matter to you very much how it happened?—Not so long as the injury is obvious. How it happened would come in if the injury were not obvious.

2280. Take a case of injury to the head, for instance?—Yes, one always enquires where it occurred, how far the man fell, and whether he fell directly on his head. But in the case of a compound fracture of the leg, where a bit of bone was sticking out, one would not think it necessary.

2281. But I am on the point of injury to the head, which is probably the best instance?—Yes.

2282. Then you would make enquiry as to how it happened?—Yes.

2283. Those are the kind of injuries that might very well be aggravated by a bad mode of conveyance, the case not having been brought in a recumbent position?—I think so.

2284. Cases that have been brought in a jolting cart or something of that sort?—Yes.

2285. In a case of that kind would you not make some enquiries as to the character of the vehicle on which it had been brought?—I should myself.

2286. And you did no doubt in many cases?—Yes.

2287. As the result of your enquiries of that kind what is the general conclusion you have formed as to the injuries done by defective modes of conveyance?—I have never discovered that any injury has been caused by defective modes of conveyance.

2288. Not even in case of injuries to the head?—No. Of course my experience only extends over six months.

2289. But still, you deal with a great many cases?—Yes.

By Sir William Collins.

2290. Do you say that injuries to the head are more likely to be prejudiced by imperfect means of transport than, say, abdominal injuries or injuries to the lower extremities?—No, I should not say so.

2291. Would you say less likely?—Yes, I should almost say less likely.

Mr. J. E. R. McDONAGH, M.R.C.S., L.R.C.P., F.Z.S., F.L.S., called in and examined.

By the Chairman.

2292. You are House Surgeon at St. Bartholomew's Hospital?—Yes.

2293. Have you had a good deal to do with these Returns from St. Bartholomew's Hospital?—Yes, I have got a list here for a fortnight, from April 24th to May 8th. (*See Appendix I, p. 44.*)

2294. I see that in your notes with which you have furnished us you deal first with the distance from which the cases come, the mode of conveyance, and by whom they were brought?—Yes; nearly all our cases come from what is called our district. I have brought here just a rough map of what our district consists. This is our district paper for our midwifery cases. (*Handing in the same.*) Nearly every case that I have seen during the last year and before has come from that district.

2295. And that is mainly the City of London?—Yes, it is the City of London; nearly all my police cases are brought by City policemen.

2296. Your cases come apparently from a short distance?—Yes, they are nearly all short cases.

2297. Will it be the most convenient course to go through the different returns, or would you rather put your evidence in your own way? First of all you deal with trivial injuries?—Yes; of course the majority of our police cases are trivial injuries.

2298. Have you much to say about the new method of bringing cases to hospital? I suppose the new motor ambulance is used?—Since the new motor has been used—a little over two months, I think, up to yesterday—the number of cases has been about 162. You cannot take an average *per diem* at present because we are getting more cases every day.

2299. As the motor ambulance gets better known?—Yes.

2300. Are most of those cases brought by the City police?—They are all brought by the City police.

2301. Because the City police always bring the ambulance?—Yes; and then, of course, there is a policeman always.

Mr. J. E. R. McDonagh.

2302. Is the ambulance generally summoned by the City police in the first instance?—Yes, because all the calls are within the City area.

2303. What is your experience of the work of it so far?—Excellent. It is much quicker, even in busy times, than hand-litters, and in the case of a fracture of the leg or head injuries it is most useful, because no head injury, however slight, is to be thought nothing of, as many of the slightest cases turn out to be the worst afterwards. As regards skilled attendance in ambulances, I do not consider that necessary.

2304. You have a policeman in the ambulance?—There is a policeman who sees the case.

2305. A policeman who has been specially trained?—There will be three; there is the driver, the man in attendance in the ambulance, and then the policeman whose case it is, because he has to come to the hospital. When he gets inside the ambulance he has nothing further to do with the case until it is admitted in the hospital, when he has to tell me exactly what the injury was, and report; whereas, if any First Aid is done it is done by the man in the ambulance.

2306. By the ambulance attendant?—Yes.

2307. What is your experience about First Aid? Are there many cases where First Aid has been administered?—Yes, in a large proportion of them.

2308. In the case of a fracture what would that First Aid be?—In a case of fracture it would be a splint, and where, of course, First Aid is more important than anywhere else is in a case of hæmorrhage and burst varicose vein. I remember a case two or three years ago in which a person died from the bursting of a varicose vein because it was brought in by lay people—I do not mean policemen—and they put the bandage in the wrong place. If policemen were instructed to arrest hæmorrhage and also to set fractures, I think a great deal might be done; and also to discriminate according to the injury. I think every head case ought to be brought lying down and in a motor ambulance, because they always do so much better for quiet. In compound fractures you can never say whether the fracture has been made compound by the mode in which it is brought up, although I have seen one case made much worse by bringing it up without a splint.

2309. Where First Aid is necessary has it generally, in your experience, been effectively given?—I have never seen a case in which First Aid has been wrongly applied by the police, or any neglect on the part of the police, but I have heard of some.

2310. I suppose that a great many more cases are brought in by the City police than by the Metropolitan police?—I do not see much of the Metropolitan police; they are nearly all the City police, and I believe the City police are more instructed in First Aid than the others, because Captain Nott Bower is very keen about it.

2311. And he has a smaller number of police to deal with?—Yes.

2311A. And this system of sending a policeman with the ambulance enables him to select which of the policemen he feels most suited for the work?—Yes, because he is a skilled man; he is supposed to be above the average policeman.

2312. I think you expressed the opinion just now that it was not necessary to do more than that?—I do not think it is necessary to do more than that, because in the first place nearly all our cases come from a short distance.

2313. You are simply speaking of your own cases?—I am simply speaking of the cases I see. They are nearly all short-distance cases—a matter of two or three minutes. No case ought to be touched, I think, more than is necessary, and as little should be done as possible before it gets to hospital. I have never once seen a case which had to be treated the moment it came into hospital. I mean to say to such an extent that an operation had to be done at once; I have never seen a case which could not wait for, say, half an hour. No case would, of course, ever take half an hour to come up.

2314. Therefore you do not agree with those witnesses who wish for a skilled attendant to go with the ambulance?—No. I do not think anything more is required to deal with the case than the policeman who comes up with it.

2315. You have no experience of cases coming from a long distance?—None.

2316. Different considerations apply in those cases?—Yes; the only cases that come from long distances are those from homes. The cases I see from long distances are brought up by the Metropolitan Asylums Board or on one of their horsed ambulances.

2317. As to the mode of conveyance. One of the heads in your *précis* is differentiation by the constable as to the mode of conveyance. Do you mean how far the constable can be left to decide what mode of conveyance should be adopted?—Yes.

2318. What do you say about that?—I say, starting off with the head, that every head injury, however slight, should come in a conveyance in which there is the least amount of movement and vibration. Any injury to the arm, say a fractured arm, might easily be brought up in a cab. In an injury to the chest, if it is a severe injury—anyone can diagnose a severe injury to the chest—then he should be brought lying down. All abdominal injuries certainly ought to be brought lying down, and all leg injuries.

2319. Do you think it would be possible to lay down certain general rules for policemen of average intelligence, such rules as a policeman can fairly safely be trusted to act upon, with regard to the choice of a conveyance?—I should think it could. I should place more importance upon head injuries than any other.

2320. Is it the case at all in the City, even with this new ambulance, that the police exercise any sort of discretion as to what conveyance they adopt? Would they, if they could, prevent or put obstacles in the way of a person going in a cab?—The motor ambulance is used now on every occasion, if it possibly can be got, whether it is a slight case or not. I have seen many cases in the motor ambulance for which there was no necessity for a motor ambulance; but I suppose that there were not many cases requiring it and so it was called. What it will be later on when people know more about the motor ambulance I cannot say.

2321. Or if it is used on a larger scale—at present it is used in a comparatively small district?—Yes.

2322. Do you have many accident cases brought into St. Bartholomew's Hospital in the evening, or at night?—Yes.

2323. Is that a bad time for accidents: what is the worst time; that is, at what time of day do accidents most frequently happen?—I could not say, because sometimes I am much more busy at one time than I am at another. I could not say that any one time is busier than another.

2324. It has been suggested that in winter just as it is getting dark is a busy time?—I do not think any reliance can be placed on that.

2325. In the city, of course, there are not many accidents at night, because there are comparatively few people in the city at night?—But then at 2 o'clock the meat market opens, so that there is not a long night.

2326. Do you wish to call our attention to any particular cases?—I have one or two things that I was asked to bring forward about the number of accidents and casualties in the year 1906 at St. Bartholomew's Hospital. I see the accidents admitted were 651, that is to say that 651 were of sufficient severity to be admitted into the wards.

2327. That is in the whole year?—Yes, 651. There were treated at the surgery 16,486, which were trivial cases which were not admitted into the wards. Out of that number 1,558 were brought by policemen.

2328. The balance were the trivial ones, not grave enough to be admitted into the wards?—All trivial cases except approximately 600, which were admitted. That is the surgical casualties; the medical casualties I do not know anything about.

By Sir William Collins.

2329. Were all the 651 cases brought by the police?—No, I cannot say all of them; because some would have been brought up by others. Say that a man was knocked down in a big warehouse, if they had a conveyance they would bring him up. So which of those were police cases I could not tell you.

By the Chairman.

2330. Are a good many accidents brought to St. Bartholomew's Hospital other than those that happen in the streets?—We have a great many factories around us; we get any amount of accidents caused in factories. There are a great many printing accidents.

2331. They would not be brought by the police?—No.

2332. Would you say, as a general rule, that when they are brought by the police they are street accidents?—Yes.

Mr. J. E. R. McDonagh.

2333. And, as you say, a very large proportion of them are brought by the City Police?—Yes, nearly all by the City Police, so far as I can find out.

2334. Have you anything to say as regards the litters used by the Metropolitan Police?—No, I do not know the different forms of litters. I have a note here about linking hospitals with the telephone, which I was asked about. I do not think that is necessary, because if we had a severe surgical case it would be admitted into the hospital at once, and the patient who was most convalescent in my ward at the time would be put somewhere else, should I be pushed for beds. Say that we are very full to-day, Friday, there are always some cases going home to-morrow, and one of those cases might easily be put somewhere else in the hospital for the night.

2335. You have not been obliged actually to turn away cases?—Never. You will remember about four or five years ago what a number of accidents there were when the C.I.V.'s came to the City; we had an enormous number of cases brought to the hospital that day—I should think we had about 70 that afternoon. What there were not beds for were put on the floor in the ward. Such a thing as that I do not believe has occurred more than once before, and that was in a great City fire. Any surgical case which is of sufficient severity is always admitted into the hospital, and we never ask another hospital to take a case.

2336. Or send to the infirmary?—The only cases we send to the infirmary are septic cases for which we have not room in our septic wards, and which cannot be admitted into a general ward because of their condition. We never send a street accident to the infirmary.

2337. Another head in your *précis* is as to what policemen should carry with them; I should like to know what your opinion is with regard to that?—If a motor ambulance is going to be used for every case that will not be necessary, because everything that is required is in the ambulance. That will only refer to cases brought on litters. For a case of hæmorrhage, on a litter, I think every policeman ought to carry about him gauze and wool; and you can buy compressed gauze and compressed wool now. And in the case of compound fractures it would be most useful, because it would practically prevent any organisms getting into the wounds on the way to the hospital.

2338. Do you think in a compound fracture it is not necessary to remove the clothes?—I think it is better not to remove the clothes, but to wait till they get to the hospital before that is done.

2339. In the case of hæmorrhage I suppose it is different?—In hæmorrhage you must cut the clothes; you must do everything to stop it.

2340. That is one of the advantages that you obtain from the motor or horse ambulance, that that sort of operation can be done by the police?—Yes.

2341. Especially in the case of women?—Yes.

2342. Do you attach much importance to that?—That I think is a thing which ought to be considered.

2343. Is there anything that you wish to call attention to particularly in the returns (*see Appendix I, p. 44.*)?—There is a case of a fractured clavicle and concussion which was brought up in a van (No. 62). Of course, whenever a van moves there is always a great deal of vibration, and as I say, the vehicle should go about with the least vibration in all these cases of head injuries. The other case I have got down here as specially serious was of much the same character.

2344. That was not a police case?—No. The other case I am referring to was brought up in a cart—a fractured leg. There was no form of splint or anything of the kind applied.

2345. Has it become much more common to use First Aid of some kind or other than it used to be formerly?—I should think considerably so.

2346. You say the police, so far as your long experience goes, do it efficiently?—Yes, because they are City police, and I believe every one of them (every one I have asked) has attended courses of First Aid, and they go, I believe, a month per year for their first three years. I think that might be altered, because supposing a man is in his ninth year's service, that means that for six years he has had no instruction in First Aid.

2347. He is not kept up to it?—No, I think they ought to be kept up more.

2348. Is there anything else you wish to say?—No, I have nothing else to say.

By the Earl of Stamford.

2349. Do you suggest anything else that the police should carry with them besides gauze and wool?—I think not.

By the Chairman.

2350. When they want something in the shape of a splint what are they to do?—They could never carry that. They would have to borrow someone's stick, or use their own truncheon, and handy methods should be taught them.

By the Earl of Stamford.

2351. I see you mention as one point the advantages and disadvantages of wheeled litters and rapid ambulances respectively. Have you anything further to say about that?—That is what I meant when I said that all head injuries ought to come in a motor ambulance.

2352. You would not imply that there are disadvantages in a rapidly moving ambulance?—No.

2353. With regard to a service for infectious cases, have you anything to say?—I should think that if conveyances have been used for infectious diseases they should be used only for infectious diseases. I should think everyone agrees on that.

2354. Have you had any experience of the ambulances of the Metropolitan Asylums Board?—Yes, we get a lot of those, of course. But I should think more might be done in ambulance work by the Metropolitan Asylums Board in getting people from their houses, because we do get so many cases of acute abdominal diseases, say acute appendicitis, and many things, which have been watched by a doctor for four or five days because they are not able to get them to hospital, and they come up too late very often because there is no way of getting them there.

2355. Do you think in non-infectious cases the ambulances of the Metropolitan Asylums Board would be suitable?—Yes, I think they would be. I do not know whether the patients have to pay or not.

By Sir William Collins.

2356. 7s. 6d., according to their own resolution?—The class of patients that we get could never pay 7s. 6d.

2357. The returns which you have alluded to, I suppose, were made before the motor ambulance was in use, can you tell me exactly the date that the motor ambulance came in?—The service was inaugurated on the 13th May, and this return ends on the 8th May.

2358. Then am I right in thinking that the returns are gathered from cases altogether antecedent to the introduction of the motor ambulance?—Yes.

2359. You have seen what may be called the old system and the new?—Yes.

2360. Have you formed any impression as to the relative advantages of the two?—Yes. As I have said I think head injuries will always be very much better brought in a motor ambulance. I am sure that quiet is everything in the treatment of head injuries, and of course the ultimate effect of head injuries is often very great. I have seen men brought in with head injuries who were perfectly well at the time, and developed serious symptoms afterwards.

2361. Do you think the patients suffer less when transported to the hospital by motor ambulance than by the wheeled litter?—I should think so, but I have had no positive evidence. I have never asked anyone.

2362. Do you think that the removal in a motor ambulance is less likely to prejudice their chance of recovery than the use of the wheeled litter?—In certain cases, yes.

2363. You said that the motor ambulance was much quicker even in busy times?—Yes. I particularly asked that question of the policemen who have been accustomed to come with cases: I have asked them at all periods both day and night whether they really find that they can get the patient quicker to the hospital by the motor ambulance than by the litter.

2364. The City police prefer the use of the motor ambulance?—Yes.

2365. You said that a skilled attendant with the motor ambulance was unnecessary?—Yes.

2366. Are you not using the word "skilled" in an ambiguous sense?—Yes.

2367. You mean that no qualified medical man would be required?—Yes.

Mr. J. E. R. McDonagh.

2368. But you would attach importance to someone habitually dealing with cases of injured or sick persons accompanying the ambulance?—You refer, presumably, to a student qualified?

2369. No, I did not mean that?—I do not think that is necessary. I think all that is necessary is what is done at present by a skilled constable—skilled in First Aid.

2370. When you say that a skilled attendant is unnecessary, you do not mean to exclude such a person as that?—No.

2371. What is the amount of First Aid that you think a policeman can usefully apply in a case of hæmorrhage or a case of fracture in which, I think, you specially indicated that it might be utilised?—Yes, those are the things which are most evident.

2372. You would not wish the policeman to endeavour to make a diagnosis, I suppose?—Oh no.

2373. To what extent should he grapple with hæmorrhage?—He should do his level best to stop it.

2374. You do not suggest that they should carry a pair of artery forceps?—No; that would be most unwise.

2375. To deal satisfactorily with hæmorrhage, even in First Aid, it is necessary to know its source?—Yes; but he can soon be taught that in First Aid lectures.

2376. We have been told by previous witnesses that harm has been done, I think even by the police, in the application of a ligature inappropriately in a case of ruptured varicose vein?—Yes, I have seen that done too.

2377. By a policeman?—Not by a policeman; it is the case I referred to some time ago.

2378. What rule would you lay down for a policeman, to guide him in the treatment of hæmorrhage?—First of all he should be able to distinguish between venous and arterial hæmorrhage. I think anyone who knew nothing about medicine could easily diagnose whether a varicose vein was bleeding or a ruptured femoral. Then he should be told to apply his ligature accordingly.

2379. A ruptured femoral what?—An artery.

2380. How would you direct your policeman to deal with a case of ruptured femoral artery?—I should tell him to tie a handkerchief with a stone or anything hard fixed in it over the femoral artery and make a sort of tourniquet on it.

2381. Pressure on the bleeding spot?—No, just above, for fear of causing a traumatic aneurism.

2382. Would you suggest that in cases of bleeding, say hæmoptysis or epistaxis, the policeman should undertake any duty?—No, except just to turn the man on his side. All those little things, I think, might be taught.

2383. To what extent should First Aid go in the treatment of fractures?—To put on splints and keep the limb as quiet as possible.

2384. Would you advocate that the policeman should apply a splint in every case of a suspected broken limb?—Yes.

2385. Is that done?—No, it is not.

2386. Should I be right in thinking that the majority of cases of fractured limbs come to the hospital without splints?—The majority which are brought by policemen come with splints. Most of those which are not brought by the police come without splints.

2387. When you speak of the majority, do you think that the great majority of cases of broken bones or broken limbs are brought by the police with splints ready applied?—Yes.

2388. The tables that you put in (*Appendix I, p. 44*) deal with 80 cases, I think?—Yes, 80 cases.

2389. And in some of those cases it is suggested that the mode of transport was undesirable or improper?—Yes.

2390. There was one case of dangerous cerebral hæmorrhage taken in a cab, which was said to have been prejudiced seriously, I see?—What number is that?

2391. Number 41?—Yes.

2392. Is that a police case?—I cannot tell from here whether this cerebral hæmorrhage was secondary to some other disease that the man had.

2393. I was not asking you that question. Was that a police case?—Yes.

2394. City or Metropolitan?—Metropolitan.

2395. Is that recorded as having been prejudiced seriously?—Yes.

2396. If you desire to make any statement as to the nature or source of the hæmorrhage, pray do so?—The only point that I was thinking of was as to whether it was seen by the House Surgeon or the House Physician, that is why I do not know anything about the case.

2397. I am merely dealing with it as one of the 80 in the returns?—But it might have been a case of cerebral hæmorrhage as the result of some other disease that the patient might have, or it might have been cerebral hæmorrhage which was caused by the accident.

2398. We are more concerned with whether the mode of transport acted prejudicially upon the patient. I gather from the return that the case was stated to have been seriously prejudiced?—Yes; he certainly ought not to have been brought in a cab.

2399. Then another case of a bruised leg (No. 46) taken in a cab is said to have been slightly prejudiced—a City police case, in which the patient refused to go in the litter which was brought?—Yes.

2400. Do you know anything about that case?—No.

2401. Do persons refuse to go in litters that are brought by the police?—I should never know whether they refuse or not.

2402. We have been told by other witnesses that they find persons refuse to enter litters and prefer to go by cab, and so on. You have not encountered that experience?—No, I have not.

2403. Then case No. 61. I think you have already referred to that—fractured clavicle and concussion?—Yes.

2404. It was taken in a cart or van and seriously prejudiced by the mode of transport?—Yes.

2405. That was reported as being most unsuitable?—Yes.

2406. You do not know whether that was a police case or not?—It was not a police case.

2407. Then there is another case, No. 61. Was that seriously prejudiced by the mode of conveyance?—Yes.

2408. Was that a police case?—Yes.

2409. City or Metropolitan?—Metropolitan.

2410. Was that taken in a cab?—Yes.

2411. What was the nature of the injury?—The man was knocked down by a van and run over.

2412. Was the injury severe?—Yes.

2413. Then in case No. 58, there is some question as to whether that was prejudiced by the mode of transport?—A severe injury to the back, brought up in a cab, that would have been prejudiced.

2414. That was not a police case?—No; it was brought up by an employee of the firm.

2415. Then case No. 76, that was a fractured leg?—Yes, that was brought up in a cart or van.

2416. Was that prejudiced?—Yes.

2417. Was that a police case?—Yes.

2418. Metropolitan or City?—Metropolitan.

2419. There was a seventh case No. 80, severely injured foot. That was not a police case, I think?—No, it was brought up by an employee of the firm in a cab.

2420. Was that, in your opinion, prejudicially affected?—Yes, it ought not to have been brought up in a cab.

2421. Then there is No. 74, a case of fractured patella?—That was brought up in a cab. It certainly ought not to have been brought up in a cab.

2422. Those, I think, are all the cases in which it is suggested in the returns that the mode of transport was prejudicial?—Yes.

2423. That makes eight cases out of 80?—Yes.

2424. That is, 10 per cent.?—Yes.

2425. That was over a period of two weeks?—Yes.

2426. I suppose that we might regard that as a sample for the year?—Yes; because I believe every case which came in is in this list.

2427. So that you would hardly say, as the representative of the London Hospital did, that no case brought to St. Bartholomew's was prejudiced by the mode of transport?—I certainly should not say that, because I have seen several that were.

TENTH DAY.

Friday, 6th December, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. THE EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. SAMUEL OSBORN, F.R.C.S., called and examined.

By the Chairman.

2428. You are a Fellow of the Royal College of Surgeons of England, and have been Chief Surgeon of the Metropolitan Corps of the St. John Ambulance Brigade for the last 27 years?—Yes.

2429. And also, I think, you have had, previously, considerable experience in hospitals?—I was House Surgeon at St. Thomas's Hospital and Surgical Registrar there for three years.

2430. You have paid very considerable attention to this question of Ambulance Service?—Yes, I have taken great interest in it.

2431. And I think you have written a book on First Aid to the Injured, which has been translated into a number of languages?—Yes; I have brought a copy (*handing in the same*).

2432. It is well known, and has been translated into a great many languages?—Yes, into some eight languages.

2433. And it is recognised generally as an authority?—Yes.

2434. What we are most concerned with, of course, is the ambulance provision in the streets and public places of London. Will you give us your views upon the present state of that provision, and any improvements which you think are desirable?—I think the ambulance provision in the streets of London should be continuous instead of, as it is at present, irregular.

2435. Will you just explain what you mean by that?—I mean that the ambulance provision in the streets of London at the present time is not as efficient as it ought to be, and that it might be very much improved by the organisation of an ambulance system for the whole of London, which would be daily in attendance, somewhat after the same pattern which is now inaugurated in the City of London.

2436. In attendance in what sense? Actually in the streets?—So that the ambulance could be summoned for any accidents.

2437. In other words, what you advocate, I understand, is a separate organisation in conjunction with the police, exclusively devoted to the Ambulance Service?—Yes.

2438. And a separate organisation?—Yes.

2439. Would you just develop what you mean by that, a little further?—The only real Ambulance Service rendered at the present time is that given gratuitously by honorary surgeons and men of the Metropolitan Corps of the St. John Ambulance Brigade, who come out on duty whenever large crowds are likely to congregate.

2440. I want just to understand exactly what you mean when you say that that is the only real ambulance service?—We work in connection with the police, and I have brought for your inspection here a list of the ambulance stations, for instance, that we drew up on the occasion of a royal procession, and another also on Lord Mayor's Day, showing how completely we work with the police, and showing how all the stations are arranged; so that the whole of the procession route was mapped out as if it was for a battlefield (*handing in the same*). There was the first line of assistance—the police, of course, with our own men—and then subsequently the "First Aid" stations, and finally the base hospitals round about the course of the procession.

2441. These arrangements, of course, are for special occasions like Lord Mayor's Day, Coronation Day, and so on?—Yes.

2442. Are these special arrangements made on each occasion of that kind?—Yes. You see the other one is for Lord Mayor's Show Day.

2443. Taking now an every-day service, how do you apply what you said?—We only come out on duty on Bank Holidays, Royal Processions, Lord Mayor's Shows, and days when we know more especially that large crowds are likely to assemble.

2444. That is the only time you come out and have special stations?—Yes.

2445. But you have permanent stations?—Yes, we have permanent stations at St. Paul's and other places.

2446. Taking what we may call the every-day work?—The every-day work, of course, is left entirely in the hands of the police force.

2447. What you would like to see is an organisation which should be responsible for the every-day work as well as for these special occasions?—Yes, working in conjunction with the police.

2448. You accept the fact, I suppose, that when an accident happens a policeman is the first man on the spot?—Quite so. That is what I call the first line of assistance, therefore it is absolutely essential that the Metropolitan Police should be instructed in ambulance work, and examined as to their efficiency in that knowledge by someone other than their instructor (because the instructor might favour his own men), and you are then perfectly certain of getting an independent and good examination.

2449. Can you say anything about the present state of knowledge of First Aid possessed by the police?—I think that the present knowledge of the police is excellent, but I think it wants keeping up, and it is on that account that I recommend that the men should be re-examined annually, as we do in the Order of St. John. Every man is re-examined every year, and is not allowed to go on duty until he has been re-examined, so that we know that he is in a state of efficiency. I found that of very great importance in one case in which I had to attend at the Law Courts. A man had received an injury in the football field, and had broken the large bone in his leg—the tibia. They brought an action against the doctor and the St. John Ambulance man who attended the case, saying that he had not diagnosed the broken fibula. The judge asked me what means I adopted to ensure that all my men were thoroughly efficient in First Aid, and I said that I never allowed any man to go on duty in the streets until he had been re-examined, and that I knew that he was thoroughly efficient for his duty. Whereupon the judge remarked that I could not do more, that these men were only supposed to render First Aid and not necessarily to diagnose that the smaller bone of the two was broken as well, and the treatment was for the one injury as for the other.

2450. Have you read Mr. Bryant's evidence?—I have.

2451. You see what his views upon First Aid are,—that it should go up to a certain point and not further?—Yes, I quite approve of that. I did not quite agree with Mr. Bryant's syllabus. (*Appendix XIV*.) I quite approve of six lectures, because only five lectures are given by the Order of St. John and it is almost impossible to get all the instruction you want to give into five lectures, therefore

I rather approve, on the other hand, of the London County Council syllabus, where they give more knowledge. But in Mr. Bryant's course, in his last lecture he gives nothing about the removal or the transport or the carrying of the wounded; that is entirely left out, and I think that is rather an important matter, it ought to be taught.

2452. With that exception, you agree generally with Mr. Bryant's syllabus?—Yes.

2453. And you agree generally with his view that the policeman is capable of being instructed as to the general nature of the injury, the portion of the body injured, and so on; and that certain general rules should be laid down, which would be sufficient to guide him for practical purposes for which his assistance is required in the first instance?—Yes, I quite agree with that.

2454. I may take it then that, with the exception which you have mentioned, you agree generally with Mr. Bryant's views on that subject?—Yes. I should like also to say that I have read Sir John Furley's evidence, and as I have had the pleasure of working with him ever since the organisation of the ambulance movement in London, I quite approve of everything he says in his evidence. Indeed, some of the remarks he has made have really and truly been supplied by myself.

2455. You attach great importance to re-examination, do you?—I do. I think that men are very likely to forget a great deal of their knowledge, and the general public of course expect to know that, when they are handled, they are being handled by somebody who is thoroughly qualified to render First Aid.

2456. Do you think that there is a danger of First Aid being carried too far—too much being attempted, and mischief being done instead of good?—I do not think so, but I thought it was necessary some time ago to issue what I consider a definition of First Aid. That definition was published in the *Lancet* and in the *British Medical Journal*, so perhaps I might read the definition.

2457. If you please?—"First Aid consists in the immediate relief of suffering and the temporary dressing of all injuries, sufficient to enable the sufferer to proceed to where authoritative advice can be obtained from some qualified medical man, or to remain on the spot when removal is unjustifiable until that advice can be obtained."

2458. You exclude from that definition anything in the nature of accurate diagnosis?—We do not expect accurate diagnosis; it is a rough diagnosis.

2459. And if I recollect aright, Mr. Bryant seemed to think it was almost enough that it should be confined to ascertaining the general nature of the injury—the part of the body affected, or whether it is a fracture or hæmorrhage for instance?—Yes. As you have mentioned hæmorrhage—that is, of course, a most important point: I always insist on our St. John Ambulance men being able to apply a tourniquet properly, because the arrest of hæmorrhage must be immediate to be of any service.

2460. I suppose that hæmorrhage is a thing that there is great difficulty in dealing with?—Yes; but every man ought to be able to apply a tourniquet properly.

2461. But there is great danger in applying a tourniquet when it is unnecessary, is there not?—Yes, but I think they would be perfectly able to judge of that. If they saw an artery spurt out bright red blood, they would know that it was absolutely necessary to put on a tourniquet.

2462. They can be instructed to that extent?—Yes, they can judge.

2463. Is there anything else you wish to say upon First Aid?—I do not know that there is. Simple cases could be treated, of course, by the police, assisted by the materials to be found in the Bischoffsheim boxes; but it is necessarily someone's duty to see that the material is put back again into those boxes after use, and that their contents are kept in proper working order and proper sanitary condition. I have found sometimes that the boxes have been left unlocked, and, therefore, the materials are open to the general public to pull out; and sometimes a stretcher is taken out and it is taken to the hospital and perhaps not brought back again, therefore it is absolutely necessary that someone should see that the material is put back again into its place after use, and is in a sanitary condition.

2464. That they should be kept under proper inspection, and precautions taken that everything is in its place?—Yes.

2465. Then as to the nature and character of the appliances that the police can have ready to their hand.

Are you in favour of the police carrying something with them—having a packet in their pocket?—Yes, decidedly.

2466. What do you say they ought to have?—I think they ought to have an antiseptic pad—an antiseptic appliance very similar to what was supplied to some of our soldiers in the South African War, who had in the tunic of their coat a little pad fastened containing such an appliance. When I was serving with Lord Methuen I found it very useful. A man, instead of waiting for a surgeon to come up or an orderly, merely tore off this little patch inside his coat, took out this antiseptic dressing, and immediately applied it to the wound, and there is not the slightest doubt in my own mind that many of the excellent recoveries from wounds in South Africa were due to this immediate treatment keeping out the dirt and putting on an antiseptic dressing.

2467. Every man had it?—Every man had it, decidedly, in the Imperial Yeomanry. I do not know whether it was general throughout.

2468. Then what would you suggest that the police should have beside the antiseptic dressing? What else can they carry with them?—I think the less they carry the better. There is a thing adopted very largely in Germany which might be made part of the outfit of the policeman—elastic braces, the two braces not being joined together at the back, so that you merely have to undo one side of the brace and one piece of the back, pull it off, and you have an elastic band, and can put on a tourniquet at once.

2469. The braces that they are wearing themselves?—The braces they are wearing themselves. There you have a tourniquet ready to hand at once. If that was made part of their outfit and supplied with their clothes they would not have to carry very much, for with their truncheon they would have a stick to turn with, and make an improvised tourniquet. I think that a large amount can be done by common sense improvising material found ready to hand. That I thought of such great importance amongst my own men that I have presented them with a silver Challenge Shield, so that they may treat certain injuries and treat them with improvised material. And in the same way I organised a sham railway accident on two occasions at the railway stations, with the idea of the men being able to treat the sufferers by means of splinters coming from the railway carriages.

2470. Do you think that the men who become policemen are, as a rule, capable of acquiring this sort of knowledge and experience?—Yes, they are an intellectual class of men, as I have found when I have had the pleasure of lecturing to them at Scotland Yard and for the London County Council.

2471. Do you find that they take much interest in the subject?—They do generally, but the class I am speaking of at Scotland Yard on one occasion was recruits, and it not being compulsory, some of them did not pay attention.

2472. I need hardly ask you whether you are in favour of such instruction being made compulsory?—Yes. Some of them went to sleep during the Lectures; they found it a nice resting-place.

2473. I suppose the appliances in the Bischoffsheim boxes are rather more elaborate?—Yes, you would find more material there. You would find a litter there, and if it was anything more than a simple case, the policeman could go to a Bischoffsheim box and get anything he wanted from it.

2474. I suppose they are the same sort of appliances in the Bischoffsheim boxes as in the police ambulances?—Yes.

2475. Do you think any improvement desirable in that respect?—I think all horse or motor ambulances ought to be made for two persons lying down and three sitting up. When they are called to any accident, they ought to be ready to carry two persons lying down and three sitting up.

2476. Would that involve an increase in the size?—No, that is the size we use in the Order of St. John. I can show you a picture of one of those ambulances (*handing in the same*). That is a motor vehicle.

2477. That is altogether a different vehicle, is it not, from an ordinary Bischoffsheim ambulance?—I thought you were alluding to our wagons.

2478. No, I had not got to that. I was talking about the Bischoffsheim boxes. I was asking more as to the appliances to be found in the Bischoffsheim boxes and the ordinary wheeled litter of the police. Do you think they are sufficient?—Yes, quite.

Mr. S. Osborn.

2479. You do not think it is necessary to have more elaborate provision?—No, I think that the litter that is used, what we call the Sir John Furley litter, is a very good one.

2480. And the other appliances are sufficient?—Yes, quite.

2481. All your criticism of them is that you would like to see an improved system of inspection, to keep them in proper order and ensure that everything is there that is wanted?—Yes.

2482. Now with regard to the character of the ambulance. What have you to say about the desirability of having an improved ambulance, either horse or motor?—I think you want some ambulance such as is shown in that picture, or that is used by the St. John Ambulance Association.

2483. Does that represent the St. John ambulance?—That is a motor one—that is a new form—but whether you should have a horse ambulance or a motor ambulance has, I think, yet to be decided. The question is, if you have a motor ambulance, whether you do not give a large amount of vibration to your patient. With a horse ambulance I do not think you will get quite as much vibration.

2484. I have spent a little time in examining people at Boston and New York lately, and I found at both places that they were not in favour of the motor ambulance?—I was rather astonished that they started a motor ambulance in the City, because when they thought of starting it I was asked to attend before Sir Ernest Newton and the Commissioner; and the Commissioner stated that he “prefers a horse ambulance because the horses would be useful to him in other directions, and moreover he considers the vibration in a motor ambulance would be injurious to a patient.” He, however, thinks that “you have not appreciated the fact of the power which the police possess of stopping traffic in the City when necessary, and says that for an ambulance there would be no hesitation in clearing the streets as for a fire engine.”

2485. Have you had any experience at all of the working of the new motor ambulance in the City?—I have not.

2486. The evidence here has been favourable to it, so far as it has gone?—My experience in South Africa was that Lord Methuen himself was placed on an ox wagon when he was injured, and it went very slowly of course; but he had none of that jolting that he would have had even in a horse ambulance, because it went so smoothly, and in a motor ambulance you would go more rapidly still. We had, of course, the veldt to consider, which was very stony and bad ground, and therefore caused terrible suffering to many poor men.

2487. You have, I suppose, considered the question of the use of motor ambulances in the streets?—Yes, I have considered that question.

2488. What do you think is to be said for and against them?—I think in the West end of London they would be advisable, but when you come to the narrow streets in the City of London, I think to get the motor ambulance along would be difficult.

2489. Because of the crowd?—Because of the crowd, and the trouble of clearing the way, not but what you find the general public always very ready to make a way for you, especially when they know that you are on an errand of mercy, attending to injured people. Take for instance, on a Royal Procession to the Guildhall, I had a man in a fit just by Guildhall Yard; I knew that the City ambulance had just been started and so I asked a sergeant to send for it, that I might utilise it at once, but he said that he did not think they would allow it out because the place was so crowded. I said, if that is the case I will put the man on one of my hand litters, and one of the orderlies wheeled him to St. Bartholomew's Hospital and he got there quite easily; that was from King Street, just by the Guildhall Yard.

2490. That would be very crowded?—Yes, just when the procession was coming along.

2491. What do you say as to the superiority of a motor or horse ambulance to the hand ambulance?—I think the hand litter is a very nice machine indeed and very useful. I like it very much.

2492. Supposing that the difficulties of expense, organisation, and so on were removed, would you propose to substitute either a motor or horse ambulance for the present hand ambulance?—Not entirely. I think you would still have to have your hand ambulance. We

organised some hand ambulances on the top of Jinrikisha in South Africa, and a very useful means of transport it was for wounded people: some of the same appliances were sent out as a present to the Russian Government in the recent war.

2493. One argument that has been much used in favour of a motor or horse ambulance as against the hand ambulance, has been the question of privacy, that the patient can be looked after better and treated better, especially in the case of women?—I would use the hand litter for the less serious cases, and the motor ambulance for the more serious cases.

2494. You would like to have the choice between the hand litter and the motor or horse ambulance?—Yes.

2495. You would like to have the horse or motor ambulance available?—Yes.

2496. Do you think you could safely leave to the police a discretion as to whether they should send for a hand ambulance or for a motor or horse ambulance?—I think you might, for I fancy if the policeman saw it was a case beyond him he would go to the call box, and from the First Aid Station they would be able to send some skilled ambulance officer who would come in the ambulance.

2497. That is assuming that you have your ambulance stations established?—Yes.

2498. But taking things as they are now, supposing the police had a horse ambulance or a motor ambulance, and the policeman has to decide on the spur of the moment whether it is a case in which he can properly send for a hand ambulance (whether that will be sufficient, or whether he ought to call out the motor or horse ambulance), what would you say?—I think a policeman would be able to judge that.

2499. Captain Nott-Bower's evidence was that in the City he left as little discretion as possible to the police; that the motor ambulance must be summoned in all cases?—I do not think that would be necessary.

2500. In all cases that were apparently serious, of course, it should be so?—Yes, only for serious cases, and with the ambulance, when the horse or motor ambulance was called up, I should like to have always a skilled attendant inside, and if it was a female case a female attendant. We have a certain number of nurses who go on duty in the streets of London and we find that females like to be attended by their own sex rather than by a man.

2501. Do you think that a skilled medical man is necessary or desirable?—I think I should recommend a skilled medical man to supervise the whole concern, but I do not think it would be necessary for a skilled medical man to go with every ambulance. I should have a special ambulance officer, a man who is rather more up in his work than a policeman, who would be midway between a doctor and the ordinary First Aid man.

2502. Both in New York and Boston where the ambulance work is principally done by hospital ambulances (in New York entirely and in Boston to a very great extent) there is always a man of some experience, a fully-qualified surgeon, or physician, if it is a medical case, and also an attendant on duty in readiness at the door, before the ambulance comes, ready to go?—That would entail very great cost.

2503. Yes, it would indeed, and re-organisation on a very large scale?—Yes. I have gone very thoroughly into the question of London, and tried to think out the cheapest lines on which it would be possible to do it efficiently.

2504. Perhaps you would like in your own way to explain your own suggestions?—I suggest that call boxes under the control of the police as are in use in the City of London, should be in use for more serious cases, and when the service of special ambulance officers and motor or horse transport are required. In connection with these call boxes there should be ambulance or First Aid Stations, with special ambulance officers and men with motor or horse transport, placed at certain centres in the Metropolitan area, to proceed immediately on call to serious catastrophes. These ambulance or First Aid Stations might most economically be placed at the ambulance stations of the Metropolitan Asylums Board, but it must be borne in mind that the latter stations are for infectious cases, and therefore distinct personnel and material must be in use for the First Aid service.

2505. We were told by Mr. Lyon, the Chairman of the Ambulance Committee of the Metropolitan Asylums Board, that for the last four or five years they have been

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keeping those services more or less distinct?—I was a Government nominee on the Metropolitan Asylums Board for some years, and if I remember rightly they have only six or seven stations, and those are very far distant, therefore it would be absolutely necessary to have one or two stations which would be much more central.

2506. Have you read Mr. Lyon's evidence?—I do not know that I read the whole of it through. I do not think I did.

2507. Still, I think elsewhere in your proof you say that apart from this question of keeping the infectious cases separate from the others, their ambulances are exceedingly good?—Very good. I was saying that for ordinary occasions what I suggest would be sufficient, and then when you have extraordinary occasions such as coronations, royal processions, Lord Mayor's shows, and big gatherings, bank holidays, then the proposed Metropolitan Ambulance Corps could be supplemented by men from the St. John Ambulance Brigade just as now. If you wanted on any occasion to have extra assistance you could supplement it by men who would volunteer for the duty. Then I think it would be very advisable that large buildings, such as the Houses of Parliament, the Bank of England, and large institutions should be able to apply to the head authority upon ambulance work, for proper and efficient men to be stationed there just as now you can write to the Corps of Commissionaires to have a commissionaire in attendance, so they could write to the Ambulance Department and request men to be in attendance for the Houses of Parliament or elsewhere. I daresay you remember the unfortunate case when Dr. Wallace was removed out of the House. If some properly instructed men had assisted in his removal I think it might not have proved fatal. I thought it such an important matter that on the 6th July, 1899, I wrote to Mr. Akers-Douglas, offering to instruct any of the officials connected with the Houses of Parliament in ambulance work, so that they might be ready to render any assistance that might be required.

2508. Supposing your suggestions were acted on, and ambulance stations were organised, do you contemplate that they should deal with cases of removal generally, or only with cases of the removal of accidents in the streets, and so on?—I should limit it solely to cases of accidents in the streets.

2509. And cases of illness?—Accidents occurring in the streets or a house on fire or a building collapsing, any accident which occurred in the streets to which the police were summoned. I think it ought to be entirely under the control of the police and all ambulance officers should be under the Chief Commissioner.

2510. How would you deal with accidents in private premises such as docks, factories, and so on?—I should hope that they would have a proper ambulance attached to the establishment. They have a proper arrangement attached to the Surrey Commercial Docks, and all the large docks have their own police.

2511. Then the system you contemplate is necessarily co-extensive with that of the operations of the police?—Yes.

2512. Is there anything else that you wish to add? I think we have gone through most of your proof?—No, thank you.

By The Earl of Stamford.

2513. You say that in your opinion no co-ordination of existing systems in London would lead to satisfactory results? I suppose something can be made of the existing systems?—Yes, most decidedly, because the Bischoffsheim boxes are excellent, and the ambulance arrangements connected with the Metropolitan Asylums Board are also very good, and you could utilise the Ambulance Association of the Order of St. John.

2514. And the same with regard to the ambulances of the Poor Law authorities?—Yes.

2515. Some of them are very good indeed, of course?—Yes.

2516. The ambulance service you think ought, at any rate, to be under one central administration?—Yes.

By Sir William Collins.

2517. I gather that on occasions, and in places where the St. John Ambulance Brigade is in operation, the system for dealing with street casualties in your opinion is completely satisfactory?—Quite so.

2518. You are anxious that at all times, and everywhere in London, there should be similar efficient organisation?—Yes, every day.

2519. Not intermittently, as you say, but continuously?—Yes.

2520. The police render some service, I understand, even on occasions when the St. John Ambulance Brigade is out?—Always. We work together most amicably, and have always done so.

2521. How long generally elapsed between the police getting the handling of an accident, and your men being on the spot, on those occasions?—A few minutes.

2522. So that I suppose the work done by the police under those circumstances is not very great beyond summoning your men?—No, but I have frequently known a policeman act on his own knowledge, and act very well.

2523. On days when the St. John Ambulance Brigade is out?—Not then, because he always relies on our men. If he knows that our men are there, he does not trouble himself, he immediately calls up our men.

2524. When they know efficient ambulance help is readily and rapidly available, the duties of the police are relatively small? Is that so?—Yes, quite so.

2525. You defined First Aid, and I think it is the first definition that we have had volunteered, I rather gathered as being, although I have not got the exact words, "such relief of suffering or temporary dressing as might be desirable to enable the sufferer to proceed or remain until qualified advice is available"?—Yes, because we find that our men must not in any way trench upon the duties of the medical profession. We have always worked very well with the medical profession, but if our men took upon themselves actual treatment, we should be doing radically wrong, because they would be practising without qualification.

2526. You draw a distinction between First Aid and diagnosis?—Yes.

2527. And your definition of First Aid does not imply diagnosis?—I would not say that entirely, but a rough diagnosis. The man would know whether it was a compound fracture by seeing the bone coming out through the skin, and if in lifting a man's limb he heard it grating, he would know the leg was broken; he would know that something serious had happened from a rough diagnosis, and act accordingly.

2528. But in cases when, as on days when the St. John Ambulance Brigade is out, your skilled help is readily available, the duty of the police, I understand, is really nothing more than summoning and guarding?—Summoning and guarding.

2529. And you would wish that on every day of the week a similar ambulance officer should be available?—Yes.

2530. You told us that you were surprised to hear that the City had adopted an electric motor ambulance?—I was surprised.

2531. Would you be surprised to hear that it has been a success?—I am very pleased to hear that it is a success, but it was a question at one time which would be better—an electric one or a horse one. At the time I saw it start we were in ignorance whether it would prove a success or not. I am pleased to hear of its success.

2532. I think you said that you had not yourself made investigations as to its success or otherwise?—No, I have not.

2533. Did I correctly understand from you that the City electric ambulance was not available on Lord Mayor's Day?—I am not speaking of last Lord Mayor's Day. I think it was on the occasion of a procession of one of the Kings to the Guildhall. I forget exactly when the ambulance was started, but I asked a sergeant for its use and I could not obtain it, so I sent my men with the patient on a hand litter to St. Bartholomew's Hospital.

2534. Was it summoned from a telephone box?—No, the policeman refused to send for it. I reported the circumstances at the time to Captain Nott-Bower, that I summoned it and could not get it.

2535. I understand you to suggest the use of motor ambulances in the West end?—Yes, because there are not such crowded thoroughfares. I thought probably a motor ambulance in the City, going through crowded streets, would have difficulty.

2536. But if a motor ambulance works successfully in the streets of the City, would that modify your view?

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—Yes, I think so, if you could get along the streets of the City. But there are some very narrow streets. They manage, of course, if it is a fire engine; a fire engine, of course, goes very rapidly, and they clear the streets for it. Of course they could clear them just as well for a motor ambulance.

2537. You are suggesting the use by ambulance officers of a special uniform, so as rather to facilitate the first run being given to a case of sickness or injury?—Yes.

2538. Did I correctly understand you to say that you would advocate the use of a motor ambulance for serious cases, and a hand ambulance for the comparatively slight cases?—Yes.

2539. Why?—If, for instance, an accident occurred within a stone's throw of St. Bartholomew's Hospital, where I have a hand litter, I should, of course, not wait to ring up the motor ambulance to remove the case a short distance like that, because the sooner I got the patient to the hospital of course the better it would be for him; therefore I should put him on a hand litter, and have him removed in that way. But if he had a very long distance to go, I should prefer a motor or horse ambulance, of course.

2540. I wanted to know whether the choice of a motor or rapidly moving ambulance as against a hand ambulance was to be limited by geographical considerations, such as the West end against the City, rather than by the gravity or otherwise of the particular case?—I think by geographical distance. For instance, on Hampstead Heath, where I have been on duty many times on bank holidays, it would be quite impossible to use a hand litter there to get a case down to hospital quickly. That is why we have our omnibus up there with stretchers inside.

By the Chairman.

2541. A horse omnibus?—Yes. That was the one that had that accident, when the horse bolted.

By Sir William Collins.

2542. Do you think it would be disadvantageous to the public to have one system of ambulances working in one part of London, and another system of ambulances in another part of London?—I do not think that would interfere. We work in the West end of London, and we work in the City of London and we always work very well with either the Metropolitan Police or the City Police.

2543. My question was rather whether there would be a disadvantage in having a duplicate or a triplicate system. Supposing on the occasion of a street accident the public knew that a rapidly moving ambulance would certainly be available within a short space of time in any part of London, would not that be better than relying on one form of ambulance in one part and another form of ambulance in another part?—I think it would be all part of the ambulance system. I do not know that there would be any particular advantage. If it was necessary to use the one or the other, I do not think there it would make very much difference.

2544. You do not think there would be an advantage in having one uniform system?—I would have both in use.

2545. Then you do not think there would be an advantage in having one uniform system, but the hand litters would be a part of the system, and the horse or motor ambulances would also be part of the system: I should have both.

2546. A uniform system with a variety of appliances?—Yes.

2547. Have you contemplated the number of ambulance officers who would be required if your plan were adopted?—No, I have not contemplated how many would be required, but it would not require a very large number because I should look upon the police being properly instructed and perfectly efficient in First Aid to make the first line of assistance. The whole police being instructed would be part of the scheme.

2548. But I understood that if the ambulance officers were readily available every day, the policeman's duties would be limited to guarding and to summoning?—If you are going to do it on such a gigantic scale as that—

2549. I wanted to know your scale?—My idea was not that. My idea was merely to call out the St. John Ambulance Brigade as we do now when you have any big function such as a Royal procession or Lord Mayor's day, or something of that description, when it would be rather in excess of the capabilities of the ambulance system. For instance, take the Coronation day, then it would be quite impossible for any ambulance system to deal with it.

2550. I thought your suggestion was to render continuous what is now intermittent, and to approximate the every-day opportunity for ambulances to that which obtains on special days when the St. John Ambulance Brigade are in attendance?—I would not have it quite so complete as we have it when very large crowds assemble in the streets. I think that would make a very costly plan and I do not think it necessary.

2551. But you say that no co-ordination of existing systems would, in your opinion, be satisfactory, but there should be a new authority under a commission of ambulances?—Yes.

2552. Would that supersede the existing organisations?—I would have this ambulance system for doing ordinary work in the streets, for instance, on a day like yesterday with no very large crowds about, but then when you have a gigantic crowd I would ask for assistance from the St. John Ambulance Brigade.

2553. Then you contemplate the continuance of the existing system of the St. John Ambulance Brigade after the establishment of your new ambulance authority?—Yes, I do not suppose they would disappear, being a voluntary body and supported by the Order of St. John of Jerusalem.

2554. But they would have to be co-ordinated with the new ambulance service?—They would be under the authority of the ambulance system whenever they came out on duty, as we are at the present time: we receive our orders from the police and work entirely with them. On a day like that the same arrangement would continue.

2555. So that the St. John Brigade would continue, even if your proposed plan were adopted?—Yes.

By the Chairman.

2556. I do not know that I quite follow one or two of your answers. Leaving out of consideration special occasions when special crowds assemble, and taking the ordinary every-day work, what would be precisely the functions of your central stations on the happening of a serious accident?—The policeman would go to a call box. Those call boxes would be in telephonic communication with First Aid stations like those that the Metropolitan Asylums Board now have, only probably there would be more of them, he would go to one of those boxes and from there he would be able to summon up a special ambulance officer with a horse or motor ambulance to remove the case.

2557. Then you do not contemplate, I understand from your answer to Sir William Collins, displacing or even diminishing the responsibility of the police in dealing with an accident in the first instance?—No.

2558. You leave that as it is?—Yes.

2559. Only you would have the police more thoroughly instructed and perhaps more efficiently supplied with the necessary apparatus?—Quite so.

2560. Then the policeman would in the exercise of his discretion, that is to say if he thought the casualty sufficiently serious, communicate with the ambulance station?—Yes.

2561. Then what would be the next step?—He could state at the same time whether it was a male or female case to be attended to, and from that station would immediately start away one or two ambulance attendants, who had been more specially instructed, in the motor ambulance to the scene of the injury where the accident was.

2562. The duty of the ambulance attendants would be to see the patient properly conveyed to the hospital?—Yes.

2563. Then the function of the central station would be to supply the ambulance and the attendant?—Yes.

2564. And to relieve the police of the responsibility of taking the case to the hospital?—Yes.

2565. But otherwise you would leave the police functions as they are, with certain improvements?—Yes, seeing that they have certain things with them, and that they are properly instructed and annually re-examined.

2566. And if the policeman did not think it necessary to summon an ambulance (which you would leave in his discretion), he would send for, or get in some way, either a litter from a Bischoffsheim box or a police litter?—Yes, therefore it would not require a very large number of skilled attendants at these First Aid stations.

2567. Because you still contemplate a large proportion of accident being dealt with by ordinary wheeled litters?

—Yes, and in severe cases they would have the opportunity of calling up a special ambulance officer with more material and more knowledge.

By Sir William Collins.

2568. And the policeman would go to the hospital with the less serious cases?—Yes.

By the Chairman.

2569. Do you attach much importance to the policeman going to the hospital with the patient, as having, at all events, the best information as to how the accident happened?—Yes. As House Surgeon I very frequently got most important information from the policeman who saw the accident and brought it in. We made it a rule at St. Thomas's never to allow the policeman to go away until he had finished his description of the accident.

2570. I think that is the practice now?—Yes.

2571. You think it is important that the hospital authorities should have the first hand information, or as nearly as possible first hand information, which the policeman alone can give?—Yes.

By Sir William Collins.

2572. But in the serious cases they would not have that first hand information if the policeman did not accompany the case?—Not always, for it does not follow that the policeman is there when the accident occurs, and if needful the policeman could go on the box of the ambulance to the hospital.

The Hon. SYDNEY HOLLAND, called and examined.

By the Chairman.

2576. You have been Chairman of the London Hospital for 11 years; of the Poplar Hospital for Accidents, 14 years; and of the Tilbury Hospital for 11 years?—Yes.

2577. All these hospitals deal largely with dock accidents?—Yes. They all deal largely with dock accidents and, of course, with other accidents too.

2578. You are also Deputy-Chairman of the London and India Docks Company?—Yes.

2579. And that Company own all the Docks on the Thames except the Surrey and Millwall Docks?—Yes.

2580. Let us deal first with the question of dock accidents. In the first place, the docks and the warehouses connected with the docks are under the superintendence of your own police?—Yes, the Metropolitan Police have no right of entry at all.

2581. Not into any part of the docks?—Not into any part of the docks at all.

2582. And the docks are the places where the greatest number of accidents occur?—Yes, but they are extraordinarily few.

2583. But still, with a vast number of people employed, they mount up to a considerable number, I suppose?—As you know, we are obliged to report every accident to the Home Office. Last year there were 2,507 accidents of all sorts at the docks, and 2,154 of those were never heard of again, that is, they were quite trifling cases. These occurred, of course, you understand, not only amongst dock employees, but amongst, as well, ship owners' clerks and persons of various sorts. I am obliged to say that because we are accused sometimes of being careless of our men. I calculate that that means about 9,600,000 people employed in the docks in the course of the year.

2584. Resorting to the docks?—Actually employed—about 9,600,000. Therefore the percentage of accidents is .03.

2585. Employed in the docks, but not necessarily by the Dock Company?—Employed in the docks. We have in the different docks and warehouses wheeled ambulance trucks. The docks and warehouses controlled by my company comprise the town warehouses in Cutler Street and Crutched Friars in the City, and Commercial Road Warehouse in Whitechapel, the Frozen Meat Depot, West Smithfield, the London and St. Katharine Docks, the East and West India Docks, the Victoria and Albert Docks, and Tilbury Docks. At Cutler Street Warehouse there is one wheeled ambulance, and also one at Crutched Friars Warehouse, and one stretcher is in readiness at

By the Chairman.

2573. Your system is open to that criticism—for what it is worth—that the policeman would not be there in the more serious cases?—Yes, but I find the police, as a rule, most efficient in what they do.

2574. In rendering first assistance?—Yes, in rendering First Aid.

2575. Is there anything else you wish to say?—To show how large a number of cases are attended by the Order of St. John—which, I think, is an important matter—I would just like to read an extract from a paper showing you the number of cases treated in one day: "The excellent service rendered by the St. John Ambulance Brigade on the day of the royal wedding" (that was in 1893) "seems not to have been so fully recognised as it should have been. It ought to be made known that the Brigade, to which the Chief Commissioner of Police had entrusted the sole duty of ambulance service in the streets, attended to more than 1,500 cases during the day, who have now for many years voluntarily undertaken these duties." You see on an occasion like that, no less than 1,500 cases were dealt with. Therefore any ambulance service would not be able to deal with an emergency such as that. You would have to have extra help, and that extra help could come quite well from the St. John Ambulance Association. That is what I wished to imply.

Commercial Road Warehouse. At the London and St. Katharine Docks one wheeled ambulance is stationed at the principal entrance—London Dock—which serves the main London Dock and St. Katharine Dock. Another wheeled ambulance is stationed at the west end of Shadwell Basin, London Dock, which serves the remainder of the London Dock. At the East India Dock there is one wheeled ambulance near the police offices, at the export gate, and also a stretcher. At the east end of "A" warehouse there is one stretcher, and also one at the north end of the West Quay, Import Dock. At the West India Dock there are four wheeled ambulances stationed in different convenient positions. In addition to these, there is a St. John Ambulance Station, with a certificated attendant in charge by day. The number of accidents and cases of sudden illness treated at this station during the year 1906 was 341, and of this total 130 were described as serious. The St. John Ambulance Association supply the man and necessary apparatus. At the Victoria Dock there are four wheeled ambulances and two stretchers. One of the ambulances is the property of the New Zealand Shipping Company, and one stretcher of the Midland Railway Company, who have premises inside that dock. At the Royal Albert Dock there are eight wheeled ambulances and three stretchers; four of the eight ambulances belong to the Dock Company, and of the three stretchers one belongs to the Dock Company. The other ambulances and stretchers belong to the various ship owners who perform their own work in the way of loading and discharge. At Tilbury Docks there are five wheeled ambulances and two stretchers in convenient positions. Three of the ambulances and the two stretchers belong to the Dock Company. The other two ambulances belong to the P. & O. Company and the White Star Line. Then we made an experiment to see how long they would take, and it has been ascertained that the longest time it would take one of these wheeled ambulances to arrive at the scene of an accident in the docks is 10 minutes, but in most cases the time would be much less; 10 minutes would be from the furthest place in the docks. The London Hospital is within a mile of one set of docks the Poplar Hospital is within a few miles of the East India Dock, and half a mile of the West India Dock. At the Albert and Victoria Docks, the hospital is in the docks, and at Tilbury it is in the docks, therefore they are comparatively close. If you had an accident at the far end of the Albert Dock it would be three miles away as the dock is three miles long. During the year 1906 there were 235 accidents—cases in which an ambulance was used. There has never been any case of loss of life through delay in getting an ambulance. Horse ambulances would not be suitable for the docks—it would be impossible really, they could not get round and get through the warehouses. Hand ambulances are much more easily and

The Hon. Sydney Holland.

quickly run to the scene of accident than would be the case with horse ambulances, whose easy and rapid transit would be much impeded in going on to jetties, over ship's moorings, and over railway metals.

2586. Are your hand ambulances about the same type as those of the Metropolitan Police?—I saw that it was said that they were not; somebody said that they were better than those of the Metropolitan Police.

2587. But you do not know yourself?—No.

2588. Or as regards the Bischoffsheim ambulances?—No. I do not know in what way they are better. The Metropolitan Police have no part in the handling of our accident cases; they are dealt with either by the men at the department, who put the patient on the ambulance, or by the Dock Police who generally accompany the injured person to the nearest hospital. 123 persons in the employment of the Company are qualified to render First Aid to the injured.

2589. Do you make your employees go through a course of First Aid?—No, we do not make them, but we encourage them to do so, and I was rather pleased the other day to find that a man who had got his leg pulled right off by a rope under a capstan had his life saved by somebody who knew how to stop bleeding.

2590. One of your men?—Yes, a lock man. We could not get him any recognition from any Society.

The Dock Police are instructed in the methods to be adopted in endeavouring to restore the apparently drowned, and it is a condition of employment that the police and the dockmaster's staff should be competent swimmers, and many cases have arisen where they have been able to rescue persons from drowning (eight cases in the last six years have been recognised by the Royal Humane Society). In addition to the above, each of the patrolling constables carries a hand grapnel suspended from his belt, for the purpose of throwing it to persons who become immersed in the dock waters, and there have been several instances where lives have been saved by the use of these appliances. In addition to the foregoing appliances there are distributed among the several officers and police boxes 10 St. John Ambulance baskets and boxes containing splints, lint, &c., and 198 emergency books giving instructions as to dealing with cases of injury and illness.

2591. Are there a great many accidents?—Really, there are very few. I see that last year only 35 terminated fatally. The total number of accident cases in the docks and warehouses during the year 1906 was 2,507, viz:—

Terminated fatally	35
Fractures	96
Injury to Head	175
Injury to Back	121
Internal injury	19
Other and Minor injuries	2,061
Total	2,507

Fog is the worst thing, but the men have long walking sticks so that they can tap the ground. Practically, work stops in a fog. So far for the docks.

2592. You would say that your system works satisfactorily on the whole?—I think it does. We happen to be very happily placed you see for hospitals.

2593. Do you say a horse or motor ambulance would be an impossibility under the condition of the docks?—It would be an impossibility; but I think that really with sufficient scattered ambulances and with hospitals so near it is just one of the instances where a horse or motor ambulance would not be needed; it would be a luxury, but so far as I can judge I do not think it is really necessary.

2594. As Chairman of the London Hospital, I suppose you have experience of dealing with accidents, not only from the docks but generally?—Yes, from everywhere; we have a vast number.

2595. Do you wish to say anything on the general question?—We have taken a great deal of trouble to get you statistics really as to eas-s, but you are going to call Mr. Rischbieth, are you not?

2596. Yes, I believe so.—Then I had better not say anything about how the accidents are brought, and so on, because I am not an expert.

2597. I think we have had some one from the London Hospital?—Yes, Mr. Woods, but he did not give very satisfactory evidence, I think, because they are really too busy to pay very accurate attention to it, so we set Mr. Rischbieth on for a month to do nothing else.

2598. We are very much indebted to you for doing that, as that sort of information will be exceedingly valuable to us.—He and Dr. Ridewood from Poplar will give you the very best evidence on that point.

2599. As Chairman of the London Hospital have any complaints come before you as to the inefficiency of the present service, or the contrary?—No case has ever come before me where I have heard that a life would have been saved by having a horse ambulance. Speaking as a hospital chairman I say that we cannot be put to the expense. Other bodies may do it if they like, but a hospital cannot possibly bear the expense of a horse ambulance, of the horse and man, and so on. We could keep the ambulance itself, as we do at the London Hospital now. I may say that Dr. Cox, who is over here from America, told me the other day, and I told him that I was going to tell you too, that these horse ambulances were very much abused in America, that he had seen as many as 10 ambulances at a fire and fellows taken for a ride to the hospital with simply a cut hand. I think that if there were many of them they might very likely be abused in the same way in London. Then I want to say that I have read the evidence and I am not an expert on the matter, but it seems to me that a horse ambulance might be very useful in the outside radius, and it is perfection to have them no doubt in the inside, but I should doubt very much whether it is worth the cost. Where they would be much more needed it seems to me, if we are going in for perfection, is as ambulances to bring ill people to the hospitals, but that is not within your reference.

2600. It is not within our reference but we have been hearing something about it?—Perhaps I might tell you what our procedure is at the London Hospital. We have one ordinary ambulance, and one ambulance for infectious cases, and our Bischoffsheim ambulance. The hospital maintains the above two ambulances for the purpose of taking patients from the hospital to the infirmary or from the hospital to their own homes. If we take them to their own homes we try to make them pay for it. If we take them to the infirmary we consider that we are gainers by getting them out of the hospital. We have not got a horse and we have not got a man; we pay for a horse and we pay for a man whenever we want to use an ambulance. If the Receiving-room Officer tells me that there is a bad case which ought to be brought to the hospital, however far off it is, we send the ambulance for it, getting the money from the patient for the horse and for the man; but occasionally we cannot get that money, and then we have to pay it; but it is very seldom that we pay it ourselves. We have made a scale of charges for the ambulance, and the driver, which perhaps I need not trouble you with.

2601. I think it would be just as well to get it on the notes, if you do not mind?—A jobmaster near the hospital keeps an ambulance, horse and driver constantly ready for the use of in-coming patients. Friends of such patients who need an ambulance are referred to this jobmaster by the hospital, with whom they make their own arrangements. In consideration, however, of this reference, he has agreed not to exceed the following charges:—

	s. d.
Use of Ambulance	2 6
Hire of Driver and Horse:—	
Within one mile radius	5 0
Within two miles radius	6 0
Within three miles radius	7 6
Within four miles radius	10 0
Outside four miles radius ..	Special arrangements
Waiting either at Patients' home or hospital:—	
1s. 6d. for half an hour. 2s. 6d. per hour.	
No charge for a wait of less than half an hour.	

The hospital when it requires a horse and driver for its own ambulance obtains them from this jobmaster at the above rates. A special reduced charge of 4s. is made to the hospital for removals to the Whitechapel, St. George's and Mile End Infirmarys. As a matter of fact I have heard these charges complained of a good deal by patients who are brought and who think them rather too high. Then, of course, the Metropolitan Asylums Board removes all our fever cases from the hospital, except the nurses, either to their asylum or to the patient's home, in their special ambulances. In some cases, however, for example when an epidemic of measles breaks out in a ward, we use our own infectious ambulance to send the patients home.

2602. May I ask you, as Chairman of the London Hospital, supposing it was thought desirable to establish a horse or motor ambulance system, with a conveyance large enough to accommodate more than one person, could you in any way arrange for the supply from your staff of

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a qualified medical or surgical person, or a person with medical or surgical experience though not technically qualified, to accompany the ambulance? In America, where they have a complete ambulance system in the principal towns, it is the regular thing that the ambulance comes first of all to the hospital, and in Boston and New York a qualified medical man goes with the ambulance to the scene of the accident or wherever the patient may be?—Does he attend the case afterwards?

2603. He is simply there for the purpose of bringing it to the hospital?—What does he do with the accident?

2604. He sees that it is properly brought and properly attended to?—I do not think you would get any medical man in London to do that. I do not think that we could provide men to do it. I don't think there are any men who would do it, unless you paid them very highly. Some young men are very hard up, and would be glad to get an easy job like that at £100 a year; but no man with any ambition in his profession would care to drive about and pick up broken legs in the streets, if he wanted to get on.

2605. In America it is regarded as part of their duty?—Our men are far too busy to regard it as part of their duty.

2606. In the first place you have hardly the numbers that would admit of it?—All our residents' time is crammed full. They have not got a moment.

2607. As I understand, in America it is part of the regular hospital work?—I should say that it is out of the question in England.

2608. When I was in the principal hospital in Boston the other day, the Superintendent of the hospital touched a bell which brought an ambulance to the door in two minutes, and there was a medical man already waiting?—What does he do in the rest of his time?

2609. He is told off in readiness, waiting for the ambulance to come, and he can be ready at the door within two minutes?—We have not got the men to do that in English hospitals.

By Sir William Collins.

2610. It would require a different organisation?—Absolutely. We have not got them.

2611. Is it not so at Liverpool, though not in London?—Is it done in Liverpool?

2612. We have been told so?—Do they keep a man ready?

2613. A qualified man goes with the case. I can quite understand what you say about London?—It astounds me. Of course it could be done if a man was paid to do it.

Might I just say that I have read through the evidence, and I see at Question 654 Mr. Lyon suggested that accidents are not treated at once. I venture to disbelieve that, because there I can speak with absolute experience. It is a thing that I have always paid attention to. I have never gone into a hospital but I have paid attention to it during the last 15 years. I am perfectly certain that at every respectable hospital an accident is treated absolutely at once. I know that the suggestion is untrue, I know that people are attended to at once; but, of course, if they wait five minutes they are very apt to complain and to exaggerate naturally the amount of time that they wait.

Then in answer to Question 168 which you, Sir William, asked, I have made inquiry since whether any suggestion has ever been made that a constable should have refreshments or a fee for bringing an accident case, and I am quite sure that no constable has ever got either refreshments or a fee for bringing an accident case. We do not want the accident cases. We have quite enough to do at the hospitals. It is no pleasure to us to receive an accident case. I just say that because I should like it to be on the notes.

By the Chairman.

2614. You see Sir Edward Henry's answer to that—"Of late a great many accusations, most of which, I think, have been quite unfounded, have been made against the police, but I have never heard that particular one"?—In the first place there is no refreshment to give them; there is no means of getting refreshments in the receiving room of any hospital. I wish there were.

By Sir William Collins.

2615. It is not true, at any rate as regards the London Hospital?—No, nor as regards any of them. I know three or four very well.

Then I was very much surprised to see it stated that hospitals refused to take in accidents. On several occasions you have asked witnesses whether it would not be well to connect all the hospitals up by telephone to know whether they could take in a case. I do not believe there is any difficulty whatever in any hospital taking any accident that happens, and if there is any difficulty the hospital must certainly be badly managed. In a little hospital like Poplar, with 100 beds, we always have 11 beds ready in case of any big accident. The porters are sleeping on the extra mattresses to keep them aired, and the nurses too, and in a very few minutes these 11 beds could be put up. Never since I have been connected with them have any hospitals refused to take in an accident. I know that, and I do not believe that any hospital ever has, except you have in evidence the Bolingbroke. But none the less it is a criminal offence, I consider, to refuse to take in an accident. If they have to make up a bed on the floor or anywhere they should deal with an accident.

2616. You do not think that cases occurred of accidents being taken to one hospital and refused admittance, and taken on to another?—I do not, really. If it got out in the papers next day, I think there would be such a row that the hospital would suffer very much; it would be a shameful thing.

2617. At any rate you think it ought not to occur?—Distinctly not. We have had a very serious explosion at Poplar close by the Hospital and had ever so many cases come in at once. You remember also when the *Albion* was launched a wave came back and broke, and we had 40 people brought up on that day to the hospital. We should take in any number.

Then I do not see why you differentiate between illness in the house and illness in the street. It is said that horse ambulances are needed for people who are taken ill in the street, but apparently there is no inquiry as to whether they are needed for those who are taken ill at home.

By the Chairman.

2618. We are not responsible for that. That is not within the terms of our reference: we are only dealing with street accidents. But I suppose the advocates of horse ambulances would not necessarily confine them to street accidents. That, however, is another matter which is not before us. I do not want to be misunderstood. A very strong argument in favour of an improved ambulance system is that at present there are no adequate means of removal of urgent cases from private homes, and so on, to hospital. That is one of the reasons why an improved system is urged?—They would be liable, of course, to very great abuse, and the hospitals would have to be the judges of whom they would take in, because local practitioners would send up cases of chronic rheumatism or phthisis or other illnesses which they cannot continue to deal with, and cases that the hospitals could not help. And if a medical practitioner were to send up a case in one of these horse ambulances, it would be very difficult to send it back.

2619. I asked that very question at New York and they assured me that there was not much abuse?—It does happen with us now. It is very difficult to prevent medical practitioners sending to the hospital chronic cases which they say are in urgent need of help, and that sort of thing, and when they come up they are unsuitable to be taken in.

Then I see that one witness said that the infirmaries are not so available as the hospitals, because some degree of urgency must be shown to secure admission for even a pauper case. I rather doubt whether that is good law. I fancy that anybody can be treated at a Poor Law Infirmary, if he is not able to pay for what he really needs. He need not be a pauper, and I fancy that any Poor Law Infirmary would treat an accident; so that it is not only the hospitals that would be available.

By Sir William Collins.

2620. You think it is not necessary to prove destitution?—No, I do not think it is to obtain relief in case of illness.

By The Earl of Stamford.

2621. I have only one small point. How are the ambulances summoned in the docks? Is there any system of communication?—There are telephones all over the docks.

2622. So that you get a message through quickly?—Yes, very quickly.

By Sir William Collins.

2623. The docks, as I gather from what you have stated, are rather a special case, and are particularly well provided

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for in the matter of ambulance accommodation?—I think so.

2624. And they are exceedingly conveniently situated as regards reaching a hospital promptly?—Yes.

2625. I do not think that you have yourself expressed an opinion for or against a more rapid system of ambulance service for London?—No. I do not feel qualified at all to do so. It seems to me that it would be very luxurious if we can have it.

2626. But you expressed the opinion very strongly that the hospitals ought not to be expected to provide it?—We cannot do it; it is out of the question.

2627. Although you do at the present time provide hospital ambulances for bringing certain cases to the hospital?—Yes; but only the carriage. We have bought a carriage once and for all; it lasts a very long time. We have nothing more, but just the carriage.

2628. And you endeavour, and in most cases succeed, in obtaining payment for the horse and man from the patient's friends?—Yes, always.

Mr. F. W. HIGGS, M.B., B.S. London, M.R.C.P., L.S.A., called and examined.

By the Chairman.

2633. You are Acting Resident Medical Officer of St. George's Hospital, and before that you were Assistant House Surgeon, House Surgeon and House Physician at the same hospital?—Yes. I had the experience, so far as it goes, of a student first; then I was Assistant House Surgeon, which may be described as Casualty Officer or Receiving-room Officer, for six months; then I was House Surgeon for six months; then House Physician for six months, and now I am Acting Resident Medical Officer. But during the whole time my experience at the hospital in some capacity or other has been from 1902 until now.

2634. So that you have had some years' experience?—Yes.

2635. And during that time you have constantly seen cases brought in?—Yes, I have held practically every position under that of the Visiting Staff.

2636. And now you not only see them brought in but you see them afterwards?—I have seen them brought in as a student, and I have seen them brought in and had to treat them, on the spot and subsequently, as House Surgeon or House Physician. And as Acting Resident Medical Officer I have to deal with the cases from the administration point of view.

2637. Would you say that during your experience there has been any change for the better or for the worse in the way in which these cases are brought into hospital; do you think that things have improved or remained stationary or deteriorated?—I have not observed any improvement; it seems to me that things go on much about the same.

2638. The first thing you refer to in your memorandum is the district served by St. George's Hospital; will you tell us about that?—The district from which we receive accidents chiefly is the adjacent part of Hyde Park, Park Lane, the whole of Piccadilly, and a good deal of the district between those two, then Victoria and the adjacent parts of Westminster. The most important parts of all, I think, are Chelsea, Fulham and Battersea. There is a very large district in the South-West from which we receive most of the cases.

2639. Did you superintend the preparation of these figures from St. George's Hospital (*Appendix I., pp. 66, 78*), with which we have been supplied?—Yes, I have prepared them. I have not seen all the cases, but I have prepared them and the remarks are mine.

2640. Perhaps we might take the second and third heads in your memorandum together. Will you give us your general views as to the efficiency of the present ambulance service?—Generally, from what I have seen, I feel satisfied that improvements could be made, and I think it is in the direction of having rapid ambulances.

2641. A point to which our attention has been directed a good deal is, in the first place, the efficiency of the First Aid rendered by the police or whoever has attended to the patient at once. Do you find many cases in which First Aid has been rendered efficiently or otherwise?—I think in certain cases the police render efficient First

2629. You do not think that the hospitals could be expected to provide even standing room for the ambulance, if the capital outlay and maintenance were at the public expense?—That depends upon the grounds attached to each hospital. At the London we have no room for stables; we had got a shed; at Poplar we have got no room; we could possibly make room for a shed, but no stable. I should think that very few hospitals have room for a stable for two horses and two men.

2630. Have you had occasion to investigate the City service in close proximity to St. Bartholomew's?—No.

2631. As regards the mode in which patients are brought to the hospital at the present time, I gather that you are suggesting another witness?—Yes, who will deal with the question much better than I could.

By the Chairman.

2632. Have you any idea how often your hospital ambulance is required?—I think about eight to ten times a week. That is taking people away, you know; it is not using the ambulance in the sense that you are speaking of; it is for the convenience of removing patients from the hospital.

Aid, but in cases which in the ordinary sense of the word do not require First Aid, but simply management in getting into a vehicle, and so on, I think they are not so clever.

2642. Do you mean that they send them in a wrong vehicle or not in a proper position?—I have seen a fair number of cases sent in a cab which should not have been sent in a cab. I cannot say that it is the fault of the police.

2643. Do you think that it is possible to lay down any rules as regards cases which may be properly sent in a cab and those which ought not?—I do not think it would be difficult to make a generalisation.

2644. You would not send a man with a broken leg in a cab?—Certainly not.

2645. Or with an injury to the head?—Just so. The cases that can be sent in a cab are chiefly injuries to the upper extremities and the chest.

2646. They can be sent in a cab?—Yes, most of them.

2647. I see you have marked a great many cases in these returns (*Appendix I., p. 66*) which you have furnished "Possibly prejudiced," and then in the column headed "Requirement" I see "Ambulance," "Rapid Ambulance," "Rapid Ambulance preferable," "Litter, or preferably Rapid Ambulance," "Ambulance more suitable," and so on, that indicates fairly what your view is?—Yes.

2648. That a good many cases would have been benefited by being brought in a rapid ambulance?—Yes. The reason why I put "possibly" and "probably" in certain cases is because a good many of them I have not actually seen, but every case, of course, is a case by itself. The injury does not always matter so much as the actual condition of the patient.

2649. What sort of accidents are most common with you—carriage accidents or horse accidents?—I think people getting run over. Anything may happen to them when they are run over. A very considerable number of them have broken legs or head injuries.

2650. I see that in three cases in this return you speak of a fractured leg being brought in a cab?—Yes.

2651. I think this return covers just over two months—from 29th April to 3rd July?—I have provided two series (*Appendix I., pp. 66, 78*). The first one was provided some time ago, and the second one, which I think, perhaps, is more complete, is just one month, from the 1st September to the 1st October, which I prepared after I received more special instructions what to look for. In the earlier Table I think that the remarks that I made will still stand; the only point is that a good many cases were missed, because it was suggested that the porters at the hospital might make a note of the cases and that I should follow them up, but I found that when the head porter was not there it was not done. I did not realise that at the time.

2652. Then these cases are made up in that way from notes? Take the mode of conveyance, for instance, did your porter make a note of that?—In the first series he made a note of it, and I enquired further into each

case; but in the second series I got the casualty officer, that is the house surgeon or the assistant house surgeon, who receive all cases, to fill in the particulars; then I consulted them afterwards, and made notes on the cases.

2653. Then this period, from the 1st September to the 1st October of this year, has been covered in that manner?—Yes; and the statistics, I think, are more valuable in that case.

2654. Have you found many cases in which First Aid has been rendered injudiciously or improperly?—I think when it is rendered it is rendered satisfactorily as a rule.

2655. What would you most criticise? You say that if First Aid is rendered it is rendered fairly efficiently?—Yes.

2656. Then, I suppose, your objection is that it is not rendered in cases where it should be?—Yes. It is not always rendered where it should be.

2657. Do you mean that a case is put in a cab and sent off without anything being done?—Yes. Of course, in some cases the important thing is speed, and little else is required; but in other cases it would be better if the patient were left lying in the road, for instance, in preference to being brought in a cab, until you have a litter or ambulance there ready. I think sometimes the crowd are rather tempted to hustle the policeman to put the case into a cab and get rid of it.

2658. Yes, we have heard that the police are sometimes in a very difficult position?—I think they are in an extremely difficult position.

2659. One of the arguments which has been pressed strongly in favour of a motor or horse ambulance is that people would get more familiar with the idea of a motor or horse ambulance, and would naturally expect the police to wait for it. What do you say to that?—Yes, I think they would very soon become trained to expecting it, as you say.

2660. That seems to be the case in America, certainly. Perhaps I am a little anticipating, but I should like you to put in your own way your special views as to what you think the police can do or might do in the matter of First Aid. How far do you think they can be trained efficiently to render First Aid?—I do not think that the police can be sufficiently trained to deal with everything they may meet with, even in the first instance. It seems to me that they cannot be expected to know whether it is a sprained ankle or a broken leg, for instance. If they have a case, for instance, where the patient says he has a sprained ankle, and they pick him up and make him walk to a cab, and we find that he has a broken leg, it may have done a very considerable amount of damage.

2661. Could you not expect the policeman, at least a general rule, to know whether a leg was broken or not? Could he not be taught to ascertain that?—It seems to me that the only thing you could teach him is to think that every injury to the leg is a broken leg.

2662. Or that every injury to the leg ought, at all events, to be sent in a recumbent position?—Yes. Some broken legs are obvious to anyone; others it might take a skilled individual five minutes to be certain about; others even remain doubtful until they are skiagraphed.

2663. Would you have the policeman, in every case of that sort where the leg might possibly be broken, bandage it up in some way and put a sort of rough splint on?—Yes, I think that would be advantageous.

2664. And, at all events where the injury is to the leg, not to send it in a cab?—That is a most important point, and to leave the patient absolutely still until he has got somewhere to put him—not to attempt to get him on to his feet.

2665. Do you think that much advantage is derived by the medical attendant at the hospital from the account which the policeman who comes with the patient can give him of how the accident happened?—My experience is that in a very considerable number of cases—the majority—the police do not see the accident; they are near, but they do not actually see it. When they do see it, I think they are capable of describing it pretty accurately.

2666. I suppose that is useful for the purpose of treatment? I was only on the question of whether it is desirable that the policeman should come to the hospital?—I think it is a matter of rather small importance. I do not think we gather much from it, because we have to go on what we see and find on examination.

2667. Do you find that many cases of hæmorrhage have been improperly dealt with? I suppose they are the most urgent of all?—They may be the most urgent,

but I think they are rather uncommon compared with a good many others, and I have not seen sufficient to generalise. I think that in any case of hæmorrhage it should be a *sine qua non* that the patient should come lying down, and unless they have someone really skilled in First Aid they ought simply to get them to hospital as quickly as they can, and not play about, so to speak—not to waste time.

2668. I suppose cases of hæmorrhage require immediate treatment more than any others?—Certainly.

2669. There are two views, of course, of the duties of a policeman. One is, that you should have a proper system of ambulances provided, and let the policeman's duties be confined simply to protecting the person until the ambulance comes, and doing practically nothing else; and the other view is, that he can be, and is to a certain extent, taught to judge of the gravity of the accident and the part of the body that is injured, and can regulate his action accordingly. Which would be your view?—I think that he can be taught; but, of course, some are good and some are bad—it must be so; whereas if there is anyone with the ambulance who is skilled, it relieves the policeman of the trouble, and is of more advantage to the injured person. I do not wish to say anything against the police, but it has sometimes struck me that the policeman feels, from the point of view of red tape, that it is of more importance, perhaps, for him to get accurate notes of the case for his superiors than to be quick in looking after the patient. I have not seen it, but it has struck me that that was the case; it is rather, perhaps, a hint than anything else. I have no definite instances, I say, to support my view. In answer to your question, I must say that I strongly incline to the former view mentioned by you.

2670. What has made you draw that conclusion?—The police, more especially the younger ones, sometimes annoy us at the hospital while we are treating a case by trying to get particulars of the accident and the name of the doctor and such like information, which would do at any time.

2671. What you have just said is rather an inference from what they do when they get to the hospital?—Yes. I have, of course, naturally, seen accidents in the streets; but I merely suggest that I think that their powers of rendering First Aid are a little bit obscured by the fact that they have to make a very accurate report to their superiors; and I assume that if they do not give an accurate report they get into more trouble than if they do not give accurate First Aid.

2672. At any rate the one is more easily ascertained than the other?—Yes.

2673. Do you attach importance to sending a skilled person with the ambulance, capable of giving skilled aid?—Yes. I think it is of extreme importance that there should be skilled aid; but the question arises as to the nature of the skilled aid and who is to give it, how it is to be provided. My own opinion is that if you have a really skilled First Aid man whom you know to be accurately trained and intelligent, as many First Aid men are, that is sufficient. It is very seldom that a doctor could do more than he could.

2674. What sort of training are you contemplating there? Are you contemplating advanced training or simple training?—Simple training.

2675. Do you mean the sort of training that you might give to a constable or do you mean something higher?—I think something more than that, because if you had skilled First Aid men you would pick them, whereas you cannot pick a policeman. Some policemen, I should think, would do for skilled First Aid men but they would have to be picked.

2676. You cannot have all picked constables on street duty?—No, but you could pick clever constables to act as First Aid men. It is a question of having theoretical and practical knowledge up to a certain extent, not a very high extent.

2677. Then you would have the ambulance come to the accident accompanied by some person, a constable or someone else, who had that sort of knowledge?—Yes.

2678. You do not think that a skilled medical attendant is necessary?—I think it is extremely rarely necessary.

2679. You would not have it as a general system for street accidents?—I should not. I do not think it would be any advantage.

2680. Now, apart from the mere question of speed, what do you say as regards the advantages of different

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kinds of ambulances or litters? What objections do you think the present wheeled litters are open to?—They are slow if they have to go any distance, but apart from speed, I have noticed that the question as to whether they are clean or not has been mentioned many times. I have not anything to say about that; I have not examined them carefully enough. But there is no doubt that the public have an objection to them. I think one objection is that they are covered up. I mean that the light is excluded—that may be an advantage perhaps; but in the case of people who are unconscious or who are supposed to be unconscious, or people who have attempted suicide, to have them covered up and to march them off as if they were dead and never to look at them seems to me a grave mistake; you do not know what is happening inside.

2681. You think that they ought to be large enough to have a second person inside?—Yes.

2682. Is there anything else under those first four heads that you wish to say?—The question with regard to the police obtaining the assistance of a doctor comes rather under what I have said already. I think there are not very many cases in which a local doctor called in on the spot could do any more than a skilled attendant, and if you get an ambulance with a skilled attendant he would know in the large majority of cases how to put the patient into the ambulance and to get him off. I have had a certain amount of experience in private practice. I have lived with a private practitioner all my life and have done a little in the past. I think it is very seldom that they do any good in such cases except to say “Take the patient to a hospital.” If it is a fracture they put it up of course satisfactorily. But when the ambulance came it should, of course, contain rough splints such as the skilled man inside would know how to use.

2683. I gather then that you would not quite adopt the phrase which has been used by some witnesses, that you should bring the hospital to the patient?—I think that is a little overdoing it. I think that dealing with wounds antiseptically is quite out of the question. I think that should not be done till they get to the hospital. I do not think it is possible to do it well, and doing it badly is worse than not doing it at all, it gives a feeling of false security.

2684. Do you think it would be of use to furnish policemen with a package containing antiseptic bandages and so on? We have had rather strong evidence this morning about that?—No, I do not.

2685. You would not have them touch that?—If it is a question of bleeding from the limbs the only thing they can do there is to put pressure where the bleeding is, not above or below. In some cases it may be an advantage above but in other cases it may cause greater hæmorrhage or serious injury; it is simply a question of applying pressure by an ordinary bandage, with no question of antiseptics, to the bleeding spot and getting the case to the hospital quickly.

2686. I gather that your view is that speed is the all-important thing?—In a large number of cases; but in a good many cases, as I mentioned, in fracture of the leg and so on, speed is not quite so important as to keep them absolutely quiet, lying where they are practically, until someone is there sufficiently skilled to be able to put the leg at rest on splints and lift the patient into the ambulance.

2687. You would not allow a constable to do that; you would not allow him to put on a splint?—I think as a rule he would not do harm and he might do good, but the whole question really turns upon whether we are going to have these ambulances or not. If we have them we want very little else. We want the skilled man inside, however.

2688. If you have a rapid ambulance with a properly skilled attendant that is ideal?—Yes. I do not think that the policeman can manage everything. I think that he is very good so far as he goes, but I do not think he is able to do enough. What the police do they do fairly satisfactorily—it is not their fault that they do not do more.

2689. Then you have a fourth heading “Special views dealing with certain cases”?—I put that list down to give you an idea what my views were with regard to those cases which I have mentioned. For instance, in any case of unconsciousness, coma, no matter what it is, nothing is important except speed, and a supine position; because any case of coma may be poisoning, which requires immediate treatment; and any case may be hæmorrhage, cerebral hæmorrhage, or a serious lesion inside the head, where immediate treatment, such as bleeding and so on,

might save the patient. There is one case, which I think I mention in my last list, of cerebral hæmorrhage about which I made a note (it may have been left out of the returns because it occurred as a matter of fact just at the beginning of the month after, but I put it in my notes simply because it seemed to me important). I had been looking for a case and had not one at the time. It was a case in which a woman was seen, I believe, in the park to drop down and become unconscious and was brought in on a litter extremely quickly because it was within a couple of hundred yards, I think, of the hospital. That woman appeared to be within five or ten minutes of her death; she was bled immediately and she recovered temporarily—as a matter of fact she recovered entirely. If that accident had happened half a mile away she would probably have been dead before she got to the hospital.

2690. It was a question of minutes?—Yes. As it happened to be near, the litter was as quick as anything could be, but had it been half-a-mile away it would have been quite a different thing.

By Sir William Collins.

2691. What was she suffering from?—Cerebral hæmorrhage. I saw her myself in the surgery, and she appeared to be on the point of death, but she was bled in the ordinary way and she recovered for a moment and, although we did not expect it, she recovered eventually.

By the Chairman.

2692. That you put as a strong case of the importance of speed?—Yes, and of a supine position. The question of suicide arises mainly, as I mentioned, with regard to their having someone there with them. The only thing to be said about hæmorrhage cases is when hæmorrhage is visible on the limbs to apply pressure to it (anyone can do that) and to keep the case supine, and in the case of limbs not to attempt pressure anywhere but on the actual bleeding spot and to elevate the limb. If it is the arm bleeding or the leg bleeding, with a proper ambulance they could elevate it. And in regard to a case on which I saw special stress had been laid by one of the very early witnesses, the case of ruptured varicose veins, although of course they are very important, they are quite rare, and if you put pressure on the point and elevate the limb you can keep it like that for hours.

By Sir William Collins.

2693. Could a policeman attend to that?—Most cases of ruptured varicose veins are about the ankle, in the lower part of the leg. The veins usually are ruptured in the lower third of the leg.

By the Chairman.

2694. Have you read much of the evidence which has been given here?—I have read through half, and have just scanned the other half.

2695. With regard to the question of speed which you have been dwelling upon, supposing that you had a choice of methods of conveyance of a patient to a hospital—whether you should have a passing cab, a wheeled litter, or a horse or motor ambulance—in your view, I suppose, the choice of the vehicle would to a great extent depend upon the nature of the injury?—Yes; but in nearly all cases, and certainly in any doubtful case, the ambulance is the only safe method.

2696. Then would you leave the policeman any discretion as to choice?—He must have some discretion, because he is always the man called; but I think that a policeman of average intelligence must have instruction which should leave no room for doubt at all.

2697. Do you think that is possible?—I think so. You cannot make absolute rules, but you can make rules fairly definite, I think.

2698. Do you happen to have read Mr. Bryant's evidence which I referred to, because he laid down certain regulations?—I saw it. I cannot remember reading it right through.

2699. Perhaps you remember that he said accidents fall into certain general classes, especially according to the part of the body that was injured?—Yes.

2700. And that he thought it was quite possible to give a policeman such general instruction as would enable him to decide in the majority of cases whether it was safe to send the man in a cab or in a hand litter, or whether he should wait for an ambulance if it is available, and so on?—I think that is so. There is just one other point in regard to these

special cases—that is the case of alcoholism plus illness or injury. The large majority of cases of fractured leg, for instance, that we get in are people who are more or less drunk. We have, of course, as well a good number of people with head injuries, whose breath smells strongly of alcohol, but who are not necessarily drunk, and they may or may not have some other serious disease which will come out and show itself, say, in an hour or two. I think, therefore, that the constable should be allowed absolutely no discretion with regard to the question of stupor from alcoholism. I think it is important that a man who appears to be partly unconscious from the effects of alcohol should be treated just the same as if he was profoundly unconscious from some other cause, because they so often have both.

2701. Then I understand you generally to assent to the proposition that cases might be roughly classified into those where it is absolutely necessary that the policeman should use the best and most rapid means of conveyance available and those in which he may safely send the man in a cab or something of that kind?—Yes, I think it is possible.

2702. Then your fifth head is, “The advisability and practicability (or otherwise) of employing young surgeons or senior students, or nurses or trained ambulance men, to accompany the ambulance”?—I think we have rather dealt with that; I have said that, in the main, qualified men are unnecessary. I think you could get them if you wanted them. I think you could get men recently qualified to take an appointment like that, say, for three months, and I think they would be rather pleased to do it; but I do not think they would do any more good than a trained ambulance man. With regard to senior students, which some witnesses have mentioned, I think it would be absolutely out of the question. The senior students cannot afford the time. They have more than they can do at present and none of them would do it. They would not be any better than an ambulance man if they could, but they would not; I feel satisfied about that.

2703. You do not think that is a practicable proposal as our hospitals are organised?—No, I think it is quite impracticable and out of the question. Then my sixth head is as to the association of, and arrangements between, the ambulance service and hospitals. As regards St. George's Hospital we could not put up an ambulance.

2704. You have no room?—No.

2705. At least, if you stay where you are?—If we stay where we are we have no room. It seems to me with regard to that, and also with regard to No. 7. “The proximity of hospitals and ambulance stations, or free telephonic communication between the two,” that certainly the ambulance station should have nothing to do with the hospitals, but that the hospitals should have the power to command the ambulance, that is to say, if anybody came to the hospital and said, “We have a certain case that we want an ambulance for,” the hospital should have the power of ringing up the ambulance station and telling them to send the ambulance.

2706. So they would if the ambulance were theirs, but as our hospitals are organised that seems almost an impossibility?—I think it would be just as satisfactory if the hospital and the nearest ambulance station were in telephonic communication, or more so, than if the ambulance were on the spot.

2707. Do you think there is a great need for ambulances for cases other than street accidents and street illnesses?—Yes, I do.

2708. I should like to hear what you have to say about that?—I find that nearly all the cases of bad illness are brought up in cabs from their homes, the reason being that it is very difficult to get an ambulance, and those are cases in which it certainly definitely does harm. I have seen a good number of instances. We have many more acute abdominal cases, surgical cases, than we have of accidents, and a good many of them have definitely had harm done by being brought in a cab.

2709. Do you consider that to be, on the whole, a greater evil and a greater need than improved provision for street accidents?—I think it is equally great, because the question again comes in of speed and of keeping cases lying flat. Those cases are almost entirely cases of abdominal disease—appendicitis, strangulated hernia (rupture), and, more important than all as regards speed, rupture of the stomach (perforation of an ulcer in the stomach), in which time is of the utmost importance.

2710. What do you say about your eighth heading—“Reception of bad accidents and the possibility of there

being no vacant beds?” We have been hearing a good deal about that just now?—There again I put that down because I saw remarks made by other witnesses. In my year's experience as house officer—both my own and that of my colleagues, and I had seven colleagues—I have never known an accident turned away—but I have known them turned away from other hospitals on to me—nor I think, with perhaps one or two exceptions, during the whole time that I have been connected with the hospital. If there is no bed we put an extra one up.

2711. I think we have touched upon nearly all the points in your *précis*?—You asked me about receiving bad accidents. I might perhaps have mentioned that if a case ever does arise for which it is practically impossible to find room, it would only occur in cases which we really could move, because we can always make room, we can put up extra beds; it is inconvenient, but we should have to do it, and it is not at all uncommon. But the only cases that I have ever known sent from other hospitals to us have been cases of broken legs which have been put up correctly at rest and splints have been put on, and they have been sent on so that no harm comes of it really. It seems to me that that point does not come in as regards any objection, because to all intents and purposes any general hospital can take in anything; there is no reason why we should not, so far as our hospital is concerned, and I do not suppose it is different in any other hospital.

2712. We may assume, then, that there is no reason for delay in order to ascertain whether a hospital can take a case or not?—Just so. In the case of any bad accidents there is no reason to enquire, or to say anything. I have been struck by one thing, and that is that patients are not always brought to the nearest hospital. I have known, for instance, cases come to our hospital from the middle of Victoria Street where it was not a case of deciding between 100 yards, because Westminster Hospital was a good deal nearer, but the policeman has taken it into his head that he will come to St. George's in preference to Westminster. Then I have heard, I do not know how it occurred, of an accident being brought to our hospital from North London. It may have been that the patient refused to go anywhere else, but it struck me at the time as curious.

2713. Do you remember ever enquiring how it came about?—I enquired, but I did not get any explanation.

2714. Were those cases brought by the police?—I am not certain whether that case was, but as regards those other cases brought by the police, where it was a question of which hospital is nearer, I have known them choose differently from what one would choose oneself as regards actual distance.

2715. Is there any other point you wish to mention?—Under my fourth head I have marked a sub-head (d), “The uses and misuses of cabs and other vehicles.” The mistakes that the police seem to make are that they put cases of slight head injury, slight concussion, into cabs—that is not uncommon. If persons are knocked down and dazed the police do not seem to realise that they should be brought lying down and they are brought in cabs, and we, perhaps, keep them lying flat for three weeks afterwards.

2716. I suppose it would be a safe rule to make that any case of injury to the head should always be brought in a recumbent position?—Yes.

2717. That would be a rule which it would not be difficult to observe?—Not at all. If anybody has an injury to the head it should be a rule that he should be brought lying down, just as much as if he were unconscious.

2718. Is there anything else you wish to say?—I have not actually touched on the question of the treatment of women in the streets; I have not anything very special to say about it; and I think it is really covered in what I have said. The only difficulty would be in the case of a woman being accompanied in the ambulance by a male attendant; somebody would write to the papers and say that it was all wrong.

2719. That has been touched upon already this morning in reference to the proceedings of the St. John Ambulance Association. They have a certain number of nurses, and it was suggested that if there were a central ambulance station it might be part of the message that it was a woman's case; and a female attendant might be sent?—Yes, that would cover it; but even then, in a large majority of cases, if it was a question of undressing the patient at all, the safest thing in practically all these cases is to put the patient flat and get her to hospital with all possible speed.

Mr. F. W. Higgs.

There is one thing I should like to say on the subject of my statistics; that is, that the records of the time taken in obtaining the ambulance and in reaching the hospital in police cases were supplied by the police themselves. At first the police seemed surprised at being asked for information, but later on they were always keen to supply us with all details.

By Sir William Collins.

2720. I should like to ask you one or two questions with regard to your tables. The first table that you put in (*Appendix I., p. 66*), dealing with observations between April 29th and July 3rd, 1907, although I understand it is not quite complete, perhaps, deals with 18 cases, I think, altogether?—Yes.

2721. And of those I gather that 8, in your opinion, were possibly or probably prejudiced by the mode of conveyance?—Yes.

2722. Take case No. 6, for instance—"Injury to pelvis (? fracture, severe)." That case was brought to the hospital in a cab, was it not?—Yes.

2723. By a Metropolitan police constable?—Yes.

2724. You think that it was probably prejudiced and that a rapid ambulance or litter would have been better?—Yes.

2725. Then case No. 16 was a severe fracture of the leg, was it not?—Yes.

2726. Brought in a cab by a Metropolitan police constable?—Yes.

2727. And you think probably prejudiced slightly by the mode of conveyance?—Yes. I do not remember now why I put "slightly" but it was a case which I considered was prejudiced.

2728. And No. 12 was a case of "fractured thigh and leg (severe)," brought in a van by a Metropolitan police constable, and in your opinion it was prejudiced by lack of aid?—Lack of First Aid. It was not that the conveyance itself was bad, because the patient was able to lie down there, but I eventually made enquiries, and I found that it was sent up without splints—that must have been the reason why I put it.

2729. Then with regard to the other table (*Appendix I., p. 78*), for the period from September 1st to October 2nd, 1907, there were 29 cases dealt with there?—Yes.

2730. And, so far as I understand, 8 out of the 29 were in your opinion conveyed in unsuitable conveyances?—Yes.

2731. So that adding the two tables together there would be 16 out of 47 cases either conveyed in unsuitable conveyances or which were possibly prejudiced?—Yes.

2732. That is one in three, practically?—Yes.

2733. None of the cases in either table were removed by horse or motor ambulances were they?—None, I think.

2734. Now, in regard to the wheeled litter, you say that the public entertain objection to it?—Yes.

2735. Have you often heard that expressed?—I cannot say often.

2736. You have heard complaints?—I have. I do not mean in my capacity as an official of the hospital, but rather generally.

2737. Is that because it is the same kind of thing that a dead body is carried in?—I think so, certainly. People who are drunk, people covered with vermin picked up in the park, and people who are dead are all brought, so far as I am aware—that is the impression—in the same conveyance.

2738. Is it generally followed by a crowd?—I should say always.

2739. But no skilled observation can be made, as I understand, because of the covering up?—Just so.

2740. I understood you to say that you would rather restrict the duties of the constable, provided that a suitable ambulance service were available, to summoning the ambulance and guarding the patient till it arrived—would that be so?—I should restrict them as much as possible to that. I do not say that the amount of teaching that they receive now should be cut off. I think if they have some knowledge it is so much the better, otherwise they are not in a position to decide, because, as I have already said, they must be able to exercise some discretion so far as regards sending for an ambulance or sending the

patient in a cab. They must be skilled enough to know that.

2741. I understand, then, that while you recognise the willingness of the police to assist, we must not expect too much of them?—That is so.

2742. Indeed, I think you said that it is not desirable to encourage the police to apply any dressing to the injured part; you would leave that till the patient got to the hospital?—I meant to imply that if we are going to have a horse or motor ambulance with an attendant inside, police should put the patient straight, as it were, and let him lie on the road until this skilled attendant came. If there is not going to be a skilled attendant, then the police must put on some splints.

2743. I understood you to say that endeavouring to encourage the police to apply a first dressing was rather giving a false security?—That was with regard to anti-septic precautions.

2744. You think that security could not be obtained by a dressing applied by the police?—I am quite sure about it. It would be a false security.

2745. Do you think we could rely upon the police to determine with any degree of accuracy what part of the body was injured?—Generally, but I would rather put it another way. I think it would be quite easy, as I think the Chairman said with regard to Mr. Bryant's evidence, to give very simple instructions to indicate to them what should be the method of removal.

2746. You called our attention to the difficulty of determining between a sprained ankle and a fractured leg?—Yes, but I said also that any injury to the leg should be brought in an ambulance. It is not a question of deciding between the two then.

2747. But you could not expect a policeman to determine between a Potts' fracture and a sprained ankle?—No, but I said that every injury to the leg should be brought in an ambulance.

2748. Are not injuries to the leg at the present time sometimes brought in cabs?—They are sometimes.

2749. In dealing with hæmorrhage, how far do you think a policeman could be trusted to apply a tourniquet?—I do not think he could be trusted at all.

2750. You think that a tourniquet is not an appliance that a policeman should have in his hands?—No, certainly not.

2751. Would you tell me why?—To apply a tourniquet is the method of stopping hæmorrhage from an artery, that is to say, hæmorrhage from a large blood vessel leading from the heart; but if there was hæmorrhage from a vein—from which the patient would lose blood less rapidly, and therefore it is not so serious—and if the policeman could not differentiate, and applied the tourniquet in the position to stop the bleeding as though it were from an artery, the part would be encouraged to bleed more. Furthermore, even if it were a case of arterial hæmorrhage in which a tourniquet applied in the right place would be of value, if that tourniquet were kept on for very long there would be a possibility of the whole limb below it dying. Supposing that the tourniquet was put on very tightly—and I think the policeman would put it on tightly—and was kept on, there would be a possibility of that limb, or part of the limb, afterwards having to be amputated from lack of blood supply; whereas moderate pressure on the point alone might have dealt with the case.

By the Chairman.

2752. Have you ever known a case in practice where a tourniquet was improperly applied in that way by a policeman?—I cannot say by a policeman. I have known the case of a tourniquet applied too tightly and kept on too long where serious trouble afterwards arose—that is to say, paralysis. I do not remember ever having seen one so put on by a policeman.

By Sir William Collins.

2753. Have you ever seen a tourniquet applied by a policeman before the patient arrived at the hospital?—I have known a patient come up, but I cannot say that it was brought up by a policeman, with hæmorrhage from the hand; and I have seen very tight bandages, with pieces of stick, put on the arteries of the wrist and bound tightly round. And I had to treat one patient myself where I think it did harm, but I cannot remember whether it was done by a policeman.

Mr. F. W. Higgs.

2754. Do I rightly understand you to be of opinion, having regard to your experience at St. George's, that the institution of a rapid ambulance service in London would be distinctly valuable?—I do think so.

2755. Summoned by telephone?—Yes.

2756. And attended not by a qualified medical man but by a skilled orderly or someone versed in ambulance work?—Yes.

2757. You think it would be better that there should be relatively few persons engaged in ambulance work, who should be highly trained, than to endeavour to give a greater degree of training in First Aid to all constables?—Yes, I agree.

2758. You think that the public in London would soon get used to the system of summoning a rapid ambulance for all cases of street accidents, if such an arrangement were instituted?—Yes, that is my opinion.

2759. And that if you were to obtain that, you think then the duty of the constable would be confined largely to guarding the patient and summoning the ambulance, pending the arrival of a skilled orderly with the ambulance?—Yes. The word "friction," I think, has been mentioned with regard to different people. It seems to me that there should be no friction, because the policeman has charge of the individual patient until the ambulance man arrives. The ambulance man has charge from the moment when he arrives until the moment when the patient is put on the receiving-room couch in the hospital, and there the hospital takes charge. I do not think that there should be any friction about it.

By the Chairman.

2760. I do not think anybody has suggested that there would be?—There might be if there was a medical man with the ambulance.

By Sir William Collins.

2761. I gather that you do not think that the assistance derived from information by the constable at the hospital, as to how the accident arose, is so essential that it might not be dispensed with?—No, I think it could be dispensed with, except inasmuch as one would rather anticipate that when the ambulance man took the patient over from the constable he would ask what is the matter, and the constable would say, "injury to leg," or "possible poisoning case," or whatever it may be.

2762. He would have the same second-hand information which I understand you to say the constable usually possesses?—Yes.

By the Chairman.

2763. Except that it goes through another hand?—Yes. After all, we can only go on what we find ourselves. One has rather to assume, especially in cases of unconsciousness, that everything is the matter really, and find out what is not. I just remember one other case, which I might, perhaps, mention. We had a case of opium poisoning, where two policemen walked the patient in. It so happened that he was not very bad, but they knew that he was poisoned by opium; and they may have got it out of medical text books, which say that you should walk about patients suffering from opium poisoning. In nearly all cases it is a mistake, in the light of present knowledge; but book after book copied it, and it is about the first thing that anybody learns who is starting these things, and it is the most pernicious thing that they could learn.

2764. The policeman is not to blame there?—He must have got hold of the book. Perhaps some members of my profession are to blame. I merely mention it as a case in which an opium poisoning case was walked in.

By Sir William Collins.

2765. Did I rightly understand you to say that the police have been more vigilant in their ambulance work since this Committee commenced its deliberations?—I simply wished to say, incidentally, that they seem very keen to give us all the information we want. I must say that in the ordinary way one finds the police ex-

tremely easy to get on with; they will do anything one tells them, and they are not officious. Occasionally one does meet a policeman who relies a little bit upon the knowledge that nobody has any power to say anything to him, practically, but that is unusual. I say that I think they have done their best to help.

2766. Generally speaking, within the limits of their knowledge, they are most ready to render every assistance with regard to casualties in the streets, and to take them to the hospital?—Yes. The remarks which I have made are all in good faith with regard to the things that the police cannot do, because as a body I think they do extremely well, and I do not think they can be expected to do more. I do not make these remarks because I think they are bad, but to show where I think they must fail because of their average intelligence and what they are taught.

By the Chairman.

2767. Do you see any reason why there should not be some improvement in that way—why this knowledge should not be made more general, and should not be more appreciated and acted upon by the police?—I do not know whether I am qualified to speak, really; but my own opinion definitely is that you cannot teach all the police, or even the majority of them, to be sufficiently clever at First Aid work to be able to deal with every case.

2768. The question is whether you can lay down sufficiently clear rules for a disciplined force to understand and act upon in the ordinary run of cases; whether you can teach them that certain cases are to be dealt with in a particular way—that they must not send a case of a broken leg or injury to the lower part of the body, or injury to the head, in a cab? Do not you think that the police could understand and act upon a rule of that kind?—Yes. I wished to infer that definitely when I said that I thought it would be easy to make rules such as Mr. Bryant did with regard to instructing them. I think they are quite capable of understanding it and acting upon it, and making practically no mistakes; but the only point is that I think they are not capable of dealing with all the cases themselves any further than that. They could deal with some, but not all. I think they could be taught to decide—and must, so far as I see, have the power to decide—whether to call an ambulance or to use a cab. They make mistakes now, but I think that you could give them instructions definite enough to prevent their making mistakes in future.

2769. Would you go a little further? Do not you think they could have rules to enable them to act both as to the character of the conveyance, and such matters as the position for the patient to be put in, and even what should be done in an ordinary case of hæmorrhage apparently requiring urgent treatment?—I do not think so. I stop there.

2770. You would not give them the treatment of hæmorrhage?—I would like not to give them the treatment of anything beyond the decision of how to get the case to the hospital. A good many can treat broken legs, but I should certainly stop at hæmorrhage.

2771. It depends entirely upon the alternatives that you have got. It really comes to this, does it not, whether a satisfactory system of rapid ambulances and skilled attendants can be organised?—Yes.

2772. Your evidence is rather in the abstract. You assume that the thing can be done, and you say that if it can be done it would be an improvement?—I have to give my evidence partly assuming that, and partly not assuming it. I confess that it is, as you say, in the abstract, in the sense that I believe it is possible, and to the advantage of the community, that we should have a rapid ambulance service with skilled attendants. If that be not the case, then, of course, we must be satisfied with what we have got, and do our best to train the police; but I think that you cannot train the police as a body to do as well as picked men with rapid ambulances. At the same time, if that cannot be, then we can make the police better than they are, certainly. They can be made better, I mean; the only thing is that I do not think you can ever make them as a body good enough.

M. HENRI NACHTEL, M.D. (Paris), called and examined.

By the Chairman.

2773. Will you state what position you hold in Paris, and what your experience has been with regard to this question of an ambulance service?—I am a Doctor of Medicine of Paris. I was in the Franco-Prussian War as Assistant Surgeon, and I am an Officer of the Legion of Honour—and I organised the Ambulance Service in Paris.

2774. You have given a great deal of attention to the subject of the organisation of an ambulance service in various countries, I believe, both in Europe and in America?—I have. I was in New York when I was studying the question. I had a scientific mission from the French Government in 1878.

2775. On this subject?—No; a general commission given me by the Faculty of Medicine; the Minister of Foreign Affairs gave me a letter accrediting me. When I got to New York I proposed to organize there a night medical service, a French institution. They told me that they had a general ambulance service already, but I told them that a night service was a different institution; that it was to call doctors at night to poor people who could not pay without loss of time, while the object of a general ambulance service is to assist people who are injured or suddenly taken ill in the streets by night or day.

2776. Were the ambulances in New York at that time horse ambulances?—Yes, they have been horse ambulances in New York since 1869. There were no horse ambulances there before that time. Horse ambulances (*ambulances volantes*) were first employed by Baron Larrey, the Surgeon-in-Chief of the French Army, who went in 1792 with Napoleon the First in the Army of the Rhine, for the removal of soldiers who were wounded on the battlefield. Up to that time the ambulances were kept a certain distance away, and there was great loss of time and many obstacles in getting to the wounded people. Accordingly he organized an ambulance service to go quickly, but then afterwards—one does not know for what reason—the use of them for going to the field of action in battle was abandoned. The idea was subsequently taken up by other European countries and also by the Americans.

2777. Was New York the first place where this system was applied?—Yes, after the War of Secession in America they took it up for New York on the suggestion of the Commission of Public Charities and Corrections, whose scheme was put into operation by Mr. T. S. Brennan, Warden of the Belle Vue Hospital. They then conceived the idea of utilizing the service in time of peace for everyday purposes. There were no printed reports when I went to the Belle Vue Hospital, and I could not get any information in that way, so I was obliged to ask at the hospital itself at which the ambulances were working—it being the first hospital to adopt them—what the service cost, and they gave me from the books the statistics which I have stated in my *présis*.

COST OF ESTABLISHMENT.

Five Carriages	...	...	...	...	...	£750
Three Horses	...	...	...	...	...	150
Harness	...	...	...	...	...	200

Total £1,100

COST OF MAINTENANCE OF THE TWO-HORSE STATION FOR THE FIRST FIVE YEARS OF ITS EXISTENCE.

Wages of three drivers for five years	...	£3,000
Board of two surgeons for five years	...	600
Stableman for five years	...	500
Telegraphist for five years	...	250
Fodder for three horses for five years	...	300
Repairs to carriages for five years	...	300
Horse-shoeing for five years	...	180
Medicines, bandages, &c., for five years	...	100

Total cost of maintenance for five years £5,230

Or say £1,046 per annum

I then went to the director of the hospital and asked him to show me the working of the scheme. He began to do this, and while I was talking with him there was an alarm given; there had been only time for a few words when the ambulance itself rushed out from the hospital and went

off. Then I asked him what he would do if there were another call, and he said that there was another ambulance which would leave at once which could deal with it. I then asked him what he would do in case there were a third call, and he replied that that was a very rare thing, but that if it took place there would be a third ambulance ready, but that they had only two students set apart for that work, so that some one would have to go from the hospital in answer to the third call. But the service is so rapid that a third call before the return of the first or second ambulance was rare.

2778. How long had the service been in existence at that time—since the Civil War?—Since 1869. I was there in 1878. I made notes of the returns by the police in 1880, and I made a written communication which I was requested to read before the Paris Academy of Medicine on the 30th of November, 1880. A committee was then appointed composed of Baron Larrey, the son of the great Larrey, who was also Surgeon-in-Chief of the French Army with Napoleon the Third, and a member of the Academy of Medicine. Professor Vulpian, Dean of the School, and M. Lègouest, who succeeded Baron Larrey as Surgeon-in-Chief of the French Army; and Dr. Chereau, the Librarian of the Faculty of Medicine, was the reporter; he made a favourable report on the work afterwards.

2779. This, I understand, was a voluntary association, not official at all?—That was the first start. We had not at that time any society at all. This was with the idea of getting the authorities of the Academy of Medicine to take the matter up. We tried to interest the Minister of the Interior in it, because we had no wish to form a private society. Baron Larrey, and the whole Academy of Medicine after a speech by Baron Larrey, resolved that a communication should be sent to the Minister of the Interior in 1881, reporting that the Academy strongly recommended the adoption of such a service for Paris, and then afterwards the Council d'Hygiene, of which the Prefect of the Police is President, requested a meeting of the Council to study the matter; which they did, and several schemes were proposed by Dr. A. Voisin; but his schemes were considered too expensive, and the members of the Council voted for the adoption of the scheme which the Academy of Medicine had recommended. Finally it went to the municipality, who appointed Dr. Bourneville to report upon it, and after much discussion and debate in the Municipal Hall, it was eventually resolved to organise such an ambulance service in Paris. But some years passed, and in 1884 we saw that the authorities approved of it in principle, but nothing was organised owing to lack of funds. It then occurred to me to form a committee and see whether we could not do it by private initiative. I therefore went to see M. Jules Simon, then a Senator, at one time Prime Minister, who we thought was the best man to take the lead, as he was a member of the French Academy. He, however, told us that we must consult our colleagues, and try to get a certain number of prominent people in Paris to join us, and that if they would give their adherence then we might come back to him. We proceeded to see all the prominent people there, and about 100 persons joined us, and I went to M. Jules Simon again. He asked us then to call a meeting, which we called, and Dr. Béclaire, the Dean of the School of Medicine, graciously allowed us to meet for the second time in the Academy of Medicine, although this time it had no connection with the Academy, but was a private affair. As the result of that meeting, a working Committee was formed, composed of the following members:—Messrs. Jules Simon (*Chairman*), Henri Monod and Mézieres (*Vice-Chairmen*), Pasteur, Alexandre Dumas, Ernest Renan, Edmond About, Lègouvé, John Lemoine, Léon Say, Baron Larrey, Professor Vulpian, Alphonse Guérin, Dr. Blanche, etc. There was also a Ladies' Committee, and I was appointed general secretary. We proceeded to consider the ways and means of getting funds, for up to that time when that Committee was organised we had been using our influence with the authorities to get authorisation, but there was a great deal of discussion and difficulty in settling whether it was the Prefect of the Department of the Seine or the Minister of the Interior to organise it, and after some years of labour we concluded that we needed the *Assistance Publique*, without which we should not be able to organise the first service. With the *Assistance Publique* we were able to organise a service in the St. Louis Hospital. I have forgotten to say that between 1884 and 1887 we had been trying gradually not only to get the

authorisation of all the authorities whom I mentioned just now, but also to get funds to organise the first service, for which purpose we had given balls and fetes of various kinds.

2780. That all came out of private funds?—Yes. In that way we obtained sufficient money to organise a service in 1887 in the St. Louis Hospital. The first cost was about £2,000. That was for the construction of a pavilion, comprising coach house for three carriages and stabling for three horses, and two rooms, one for the medical attendants and one for the drivers, and a place to keep the forage for the horses, and so forth. In order to maintain the service for the St. Louis Hospital we hired the horses—that was the easiest way of doing it; and for three horses it cost us from about 200 to 300 francs a month, and the whole service cost us £1,200 a year, including horse-hire, payment for hospital in-patients, wages and food of drivers, and telephone rentals. We had no rent to pay, because the hospital gave the accommodation for the pavilion for the service. I should mention that the ambulances themselves were included in the first cost. From 1887 to 1895 the service was carried on by the society. The calls to which the St. Louis ambulance station responded were 17 in the first month, June, 1888, and have gone on progressively since then to about 200 a month, and in that number there were, naturally, surgical cases of all sorts, and pathological cases of all sorts, but particularly cerebral congestion, syncope, angina pectoris, &c.

2781. These were cases amongst the population generally; not confined at all to accident cases?—They included both.

2782. The cases are taken whether they occur in the streets or in the people's homes?—When they are called to a case in a house they go, because, if they are poor people and there is no means of transporting them, and they cannot pay for a cab, we have to send the ambulance for them.

By Sir William Collins.

2783. This was only for the district served by the St. Louis Hospital?—It was for a perimeter of about 8 kilometres, so that the maximum distance from St. Louis to the circumference was about 3 kilometres, so that, taking St. Louis as the centre, we ran 3 kilometres in each direction.

By the Chairman.

2784. That gives a history of the Paris service?—Yes. Then in 1835 we handed it over to the Government.

2785. You mean to the Municipality?—Yes. Since that time I have ceased to have anything to do with it, but some changes took place. We begged the Municipality not to change the system, but very soon after it went out of our hands they modified it by doing away with the call stations that we had in the chemists' shops. I should tell you that in Paris it is the custom always to carry any person who is injured or taken suddenly ill in the street, whatever the nature of the case may be, into a chemist's shop; nobody thinks of doing anything else. Originally when I first made my proposition to the Academy of Medicine I suggested putting alarm boxes in the streets, but that could not be done on account of the expense, and because it was thought they would interfere with the alarm boxes for fire purposes which had been already organised, so that we had to make separate arrangements. There was great difficulty in arranging anything special, and as I thought it would not be a practicable thing to take all the chemists' shops and put special telephonic communications there, because there were too many of them, I found out the area in which the accidents mostly took place; I informed myself of a certain number of chemists, who told me how many patients and injured people were carried to their shops per day, per week, per month, and, consequently, per year. I worked out the statistics, and found that there were about thirty of those chemists' shops to which most of the injured were carried, and I had a map made—which I submit to the Committee (*handing in the same*). We put call stations at those thirty shops, and where there was no chemist's shop available we took the police station.

2786. Are the chemists obliged to take in these people, or could any chemist refuse to do so?—No, he cannot refuse.

2787. Because of public feeling on the subject?—Yes, it is such a tradition.

2788. There is no law on the matter?—No, but he would have a hard time if he refused, and there is no instance of a chemist having refused.

2789. Do they keep any appliances ready; do they have any bed ready, and so on?—No, not at all; but as a student the chemist gains a certain knowledge as regards First Aid in the hospitals, so that he may be able to give First Aid. He does what he can. I put a special telephone wire to each of the thirty stations by which to call the ambulance, and they worked perfectly and rendered a great deal of service. But when the Municipality took it over they wanted to do the thing economically, so they did away with the call posts at the chemists' shops and made a central exchange call, which involves loss of time, because they do not answer as quickly as we did.

2790. But still, the cases are taken into the chemists' shops?—Yes, but the chemist is obliged to come to the exchange to call the ambulance.

2791. And there is loss of time in that way?—Yes. Then there is another point. Our horse was always ready harnessed in the ambulance. We changed them every four hours. That was the quickest way of getting the ambulance out rapidly when an alarm came. When the Municipality took it over they gave up that system, and now they harness the horse when the alarm is given, which again means loss of time.

2792. Were the number of horses and ambulances increased?—At the St. Louis Hospital the number is the same, but they have organised another post at Caulaincourt, where they have a certain number of ambulances which they send for accidents as well as for private cases.

2793. Is that another hospital?—No, that is not a hospital; that is a special post.

2794. That is under the Municipality?—Yes.

2795. Are this St. Louis Hospital and this Caulaincourt place the only centres now?—They are the only two. The expense prevents their doing anything more.

2796. Then those two can hardly serve the whole of Paris?—They only serve a certain number of arrondissements—only a certain part of Paris. They are trying to make them do for the whole of Paris, but it is impossible.

2797. Therefore you cannot say that it is a complete ambulance service?—Not by any means.

2798. Very far from a complete service?—Yes, there is always the same difficulty in not having enough, on account of economy.

2799. And has the expense remained about the same?—No, they have spent more money.

2800. I suppose there are no means of knowing exactly what they spend now?—I have a letter here from the Prefect of the Department of the Seine, in reply to one I wrote to him, showing what it has cost (*handing the letter to the Chairman*.)

2801. The City of Paris, I see, expends nearly 60,000 francs a year for the ambulance service?—Yes, and they are making efforts to do more. I may say that when an alarm was given at the hospital the driver was immediately ready, and the doctor had a blank form given to him to fill up the time when the call was received, the time of arrival at the scene of the accident, the name of the patient and particulars concerning him. I have the honour to submit to you a specimen (*handing in the same*.)

2802. It is very much the same as I saw in America?—Yes.

2803. Then, according to your account, the service is by no means a complete service in Paris?—The service itself at the St. Louis Hospital is complete.

2804. But still it cannot cover the whole ground, or anything like it?—No, not at all.

2805. So far as you know, is there any organisation in Paris which supplements these ambulances? Have the police anything to do with it?—Not at all; they cannot do anything. Formerly they used to have very inferior carriages for contagious diseases, sickness, and so on, but they have done away with that.

2806. What happens when an accident takes place? Have the police no duties when an accident happens?—When an accident happens the people take the case immediately to the chemist's shop, and the policeman, if he is there, takes note of how the accident happened and what the nature of it is. He also takes the name and address of the person, and so forth. He goes to the chemist's shop with the injured person, and sometimes he has taken care to give the alarm to the hospital, which sends the ambulance.

Dr. H. Nachtel.

2807. Is it the case all over Paris that they take them to a chemist's shop ?—Yes, all over Paris.

2808. Suppose that the chemist cannot get an ambulance, what does he do ?—If the chemist cannot get an ambulance, he will wait for some time to get a stretcher.

2809. And who keeps the stretcher ?—The Commissioner of Police or the Maire, and there is loss of time in getting it, because there is no man to carry it.

2810. The stretchers are kept by the police ?—By the police or the Maire.

2811. That, I suppose, is a sort of thing you carry on your shoulder ?—They carry them with the hands, not on the shoulder. But they do their best to send for an ambulance, because the stretcher is not sufficient.

2812. I suppose they may be kept waiting a very long time ?—Sometimes they are kept a long time ; at another time it comes very quickly. I myself used to see that the ambulance was always ready, the doctor in his place, the driver ready to start, the horse harnessed, and the alarm boxes in good working order ; and if there was anything to repair, that it was repaired at once. Then when an alarm was given, the ambulance came in from three to ten minutes.

2813. As I understand, you only professed to serve a particular area ?—Yes, a perimeter of 8 kilometres. That is about five arrondissements.

2814. I may take it that outside that area there is practically no provision ?—There was no provision, but sometimes, if there was a very urgent case, they went to it.

My first plan at the beginning in our society was to have six stations for Paris—three on the right of the river and three on the left of the river—that was my dream.

2815. You wanted to cover the whole of Paris ?—Yes, that is to say it was thought that it would be necessary to have many more, but I found that six would cover it.

2816. Equipped to about the same extent as now ?—Yes, but unfortunately I was disappointed, and I had to come down to one station, because there were no funds.

2817. This station at St. Louis Hospital is all that you established ?—Yes, that was the only thing that we could do. We carried on a great deal of service from that one centre.

2818. How many ambulances are kept at that one station ?—Two. There were three ambulances, but one was in reserve, and two were at work. We started this as a type at first, and we could have done the other five afterwards in the same manner as that one.

2819. There are no other ambulances available in Paris except those which are kept at St. Louis and Caulaincourt ?—No. They have a separate station for infectious diseases.

2820. That is what you have to tell us about Paris, is it ?—Yes. I also should like to make some reference to a system for London.

2821. I am afraid we shall have to ask you to deal with that next Friday, if you can conveniently come then ?—Certainly.

ELEVENTH DAY.

Friday, 13th December, 1907.

PRESENT :

SIR KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Honourable The EARL OF STAMFORD.

SIR WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

THE RIGHT HONOURABLE THE LORD LEIGH, called and examined.

By the Chairman.

2822. You have taken considerable interest in this subject, I believe, for some time ?—Yes, I have.

2823. Will you please proceed in your own way with what you wish to say ?—My attention was first called to the subject of ambulances at the time of one of the Royal processions during Her late Majesty's reign, when from a house at the corner of Hamilton Place and Piccadilly I saw a man suffering from, apparently, a broken leg, who had been carried into the railed enclosure of the house opposite. With St. George's Hospital not 200 yards away I saw that unfortunate man lying there for an hour and a half, under a broiling sun, with his leg propped up, and bleeding profusely until the crowd having somewhat dispersed, he was carried away in a four-wheeler, with his leg in the condition I have described.

2824. How long ago was that ?—It was at the time of one of the Royal processions, I am not sure which it was.

2825. I only want to get about the date ?—It was before the days of motor ambulances ; it was before 1896 ; it was some 15 years ago. Had a horse ambulance been available he might have been conveyed away directly to a hospital, in a recumbent position. I determined then to do what I could to get such ambulances introduced into the Metropolis. The *Nineteenth Century Magazine* for October, 1896, contained an article which I wrote on Horse Ambulances, which I sent to any persons whom I thought likely to help in the matter, among them being Mr. Andrew Carnegie ; and, a mutual friend having also spoken to him on the matter, Mr. Carnegie sent me an offer to provide any London Hospital applying for it with the best rapid ambulance New York could produce, and free of all cost, for accident cases. Mr. Carnegie also offered to maintain it for a year, as an object lesson, he

stated, to the Metropolis, of the advantages of the New York system. I made this offer known to hospital after hospital, but they all refused it, on the ground of the eventual expense of the upkeep. The then Commissioner of Metropolitan Police, to whom I afterwards went, considered that the existing system supplied all the needs of the Metropolis.

2826. Which Commissioner was that ?—It was Sir Edward Bradford. The London County Council, to whom I at last went, showed the first inclination I had met with to accept the offer of the ambulance should it be made to them—and finally, as Mr. Gomme stated in his evidence, they had the inquiry which he mentioned into the London ambulance system generally. As an instance of the advantage of a rapid ambulance I may mention that when my wife's brother met with an accident in New York, a good many years ago, having been thrown from his horse on to his head, a horse ambulance was quickly on the spot, and First Aid was administered ; the brandy given—which was carried on the ambulance—having, it was afterwards stated, saved my brother-in-law's life, for he was on the point of death from shock. He was taken to one of the New York hospitals, and eventually recovered, and—and this is, I consider, to be specially noted—no charge whatever was made, from first to last, for the services rendered by the ambulance, or by the hospital.

2827. They never do make any charge ?—No, although as a matter of fact my brother-in-law made a donation to the hospital, but this was absolutely gratuitous on his part. Surely no ambulance service can be perfect in which there is any after-thought—or, would it be more correct to say, before-thought ?—of payment for the services rendered.

2828. Do not you draw a little distinction between after-thought and before-thought ? I quite agree as to

forethought, but I do not quite see why persons should not pay for the services of the ambulance, when they are able to do so, afterwards?—I am just coming to that question.

By Sir William Collins.

2829. If they know that they have to pay afterwards there may be some forethought in regard to taking it, may there not?

By the Chairman.

There may be.

By the Witness.

The vast majority of accidents occur among the poor, and how can payment from them be expected? The papers some years ago mentioned a case in which delay occurred in carrying away in a rapid ambulance a boy who had met with an accident, until a bystander provided the money demanded; and apparently there was foundation for the story.

By the Chairman.

2830. Was that case a London case?—Yes, it was a case that occurred 15 to 20 years ago, I think. It was a case of a St. John ambulance which I noticed, and my father being a Knight of St. John (I think he was Bailiff of Aquila), through him I made enquiries as to whether this story was true or not, because it sounded a very bad case, and apparently it was true. So far as I could make out they actually delayed carrying away the boy until a bystander produced the money.

2831. Of course there is a payment for the use of the ambulances of the Metropolitan Asylums Board for private non-infectious cases, unless it is remitted?—Yes. Any idea, also, of trying to differentiate between the rich and the poor in such cases is likely to lead to delay, which is fatal to the perfection of an ambulance service. Such service should certainly be absolutely and entirely gratuitous, from first to last, for rich and poor alike.

2832. I have read your article in the *Nineteenth Century* for October, 1896. Was that written from your personal experience at that time?—I wrote it in England after making enquiries. I got all the information that I could from New York.

2833. Is there anything else you wish to add? You have seen the evidence that has been given before us?—I certainly venture to think that any ambulance service should be gratuitous.

By Sir William Collins.

2834. You call attention to other examples besides those of New York in your article in the *Nineteenth Century*. Do you know whether any of the towns which have adopted a rapid ambulance service have since that time reverted to hand ambulances?—I have never heard of such a case.

2835. You point out a distinction between London and New York in the fact of an absence in London of Municipal hospitals?—Yes.

2836. And you conclude your article, I think, by discussing the relative advantages of the Metropolitan Asylums Board and the London County Council as the authority?—I should have thought the London County Council certainly, so far as I could see, should be the authority. I was on the London County Council for some three years, and I should have thought that the London County Council would certainly be the best authority.

2837. You suggest that there may be possibly a want of confidence on the part of the public if the authority that deals with infectious diseases should also deal with street accidents?—I should have thought that that was a very strong point as to the absolute impossibility of confidence on the part of the public where the two services might be combined.

By the Chairman.

2838. Have you had an opportunity of reading the evidence?—Yes.

2839. Have you read Mr. Lyon's evidence and the evidence of the Clerk to the Metropolitan Asylums Board?—I did read the evidence and it struck me that there was great difficulty in differentiating between the infectious diseases ambulances and those for cases that were not infectious.

By Sir William Collins.

2840. Can you tell me whether the present London County Council desire to be made the authority for ambulances?—I have not heard since I have left them.

By the Chairman.

2841. What do you mean exactly by the ambulance authority: what is your conception of an ambulance authority? In New York, for instance, they have no ambulance authority, or in Boston?—No, but the difference there is in the hospitals being municipal.

2842. That is one great difference, although the hospitals which are not municipal have ambulances?—Yes, every hospital has ambulances. The scheme drawn out by the late County Council, with which Sir William had a great deal to do, seemed to be as perfect as could be devised.

2843. I rather wanted to get your own view—what your conception is of an ambulance authority and its functions and scope. Would it, for instance, deal with all sorts of cases of removal?—I should have thought only with accident cases.

2844. If you have a very crying need for providing for the removal of poor people, whether suffering from accident or illness and wherever the accident or illness takes place, would you not include in the scope of your ambulance authority cases of that kind?—I should have thought that it might very well be extended to do that.

2845. We have had some evidence here already, and I expect we shall have some more, which emphasises very strongly indeed the need of a provision of that kind. I think when one comes to deal with an ambulance authority one wants to know whether you would extend it to all cases of that sort?—I think, on reflection, I should.

2846. That makes it a very much bigger question, because those cases are more numerous than the accident cases?—Yes, I quite see your point.

2847. We have had a great deal of evidence about an ambulance authority, and I want rather to know whether the witnesses have formed a clear conception in their own minds what they mean by it?—I should think it might very well be extended to that.

2848. Then in whose hands would you put it: in the hands of the hospital, or in the hands of the medical authority, or in the hands of the municipal authority, or in the hands of the police?—It is a big question. Perhaps the London County Council would be the best authority.

By Sir William Collins.

2849. Have you seen these police street ambulances which have been put about in various parts of the Metropolitan Police area lately?—No, I have not.

2850. I was wondering whether you had arrived at any conclusion as to whether they in any way meet the want?—I have not seen them.

By the Chairman.

2851. Sir William Collins asked you just now whether you knew of any case where hand ambulances which had been superseded by motor or horse ambulances have been reverted to, but do you know any case where anything like the present system of wheeled ambulances has been in existence? If I recollect aright, in New York and in Boston, and I think in other towns in America, the introduction of these rapid motor ambulances was preceded by, you may call it, no system at all?—Yes.

2852. Speaking from recollection I think that was the general case?—Yes.

2853. Now we have a number of hand ambulances—I think the number is 350 or more—available in London?—Yes.

2854. Do you know of any case where there has been a similar provision of hand ambulances in proportion to the population: I only ask for information?—No, I do not know.

2855. Whether such a system be good or bad: I do not think it existed in most cases?—No.

By Sir William Collins.

2856. What about the City of London, were there not hand ambulances there before the rapid moving ambulance was instituted?—Yes. I thought the Chairman meant outside London.

By the Chairman.

2857. Yes, I meant as a general system?—No, I do not know of any case.

M. HENRI NACHTEL, M.D. (Paris), recalled and further examined.

By the Chairman.

2858. We are much obliged to you, Dr. Nachtel, for coming again. Did you finish what you wished to say about Paris last time?—I should like very much to be allowed to say something which I omitted at the last meeting, if the Committee will permit me.

2859. Certainly?—In reference to the system of call in New York there were two methods at the time when I was there. In the first place, when a person was injured in the street, if it was a slight injury he was taken to the nearest police station, and the officers of the station communicated with the headquarters, who informed the Belle Vue Hospital and they sent the ambulance; but when the case was an urgent case the call was given in this way: At certain places there was a telegraph post, painted red, with a box attached to it, the key of which was kept by the nearest opposite resident, so that any person could go to that telegraph post and give a call direct to the Belle Vue Hospital; the number of strokes on the bell indicated the place from which the call came. That was in 1878 when I was there.

2860. The system is very much the same at the present day as it was then, only it has been very much enlarged. For instance, in your statistics of the expense which you gave us last time you mentioned 3 as being the number of horses at Belle Vue Hospital. I saw 18 the other day when I was there?—Yes, that was in 1878; the service had only been five years in existence then.

Then with regard to Paris, as I stated last week, I was entrusted with a scientific commission by the French Government in 1878, and I now produce the letter accrediting me, and a letter acknowledging my report from the Minister of Foreign Affairs. I submit to the Committee a certified copy from the French Consul in London of the letter accrediting me, together with the original letter (*handing in the same*), but I beg the Committee to allow me to read the letter of acknowledgement in 1880, of M. Hanotaux, the Minister of Foreign Affairs, when I made my report to him. This is also a certified translation from the Consul-General. "Sir, I have received the letter which you have forwarded to me to give me an account of a mission for studies that, in 1878, the Faculty of Medicine of Paris has entrusted you to perform in the United States of America, for which one of my predecessors has given you, at the request of the Minister of Public Instruction, a letter introducing you to the representative of the French Republic in Washington. You state in same letter that during your stay in the United States you have been studying the organisation of the ambulance carriage service of New York, and that at your return in France you have taken the initiative to organise a similar service in Paris. I thank you for this communication, which I have read with a most serious interest. I thank you also for the sending of the booklet enclosed in your letter, and which contains, together with a report drawn up by you, the text of the speeches delivered on the occasion of the handing over to the Municipality of Paris of the Institution of the Municipal Ambulances. (Signed) G. Hanotaux." I also hand in the original letter in French (*handing in the same*). The Paris ambulances, when first instituted, were only for street accidents and sudden illnesses in the streets, factories, public places, &c. Occasionally, however, on urgent application, we undertook to transport patients from their homes to a hospital. That is all I desire to add with regard to Paris.

2861. Then now you come to London. Will you tell us what your suggestion is with regard to London?—I should like to make a short statement before I go into the scheme that I suggest. I wish to state that for many years I have had a strong desire to see London provided with a similar system to that which I initiated in Paris. I have noticed certain statements in the evidence given by Sir Edward Henry and Mr. Harrison concerning Dr. Benjamin Howard to which I should like to refer. Sir Edward Henry says that Dr. Benjamin Howard designed the New York ambulance carriage, and Mr. Harrison refers to Dr. Howard's work in London. Seeing how carefully the Committee have gone into the whole question, I feel that it is my duty to state as briefly as possible all the facts relating to the problem of introducing street ambulances in London, and I beg the Committee to allow me to read a letter which I wrote to the *British Medical Journal* on December 2nd, 1882, upon that subject (*reading the same*.) In 1883 I saw the Commissioner of Police on the subject, and again in 1889 I saw Sir Edward Henry.

2862. I do not think we ought to go into any question between you and Dr. Howard as to who was the first in the field, and so on. We want very much to have the benefit of your experience, both in Paris and New York, and your opinion of what would be a proper system in London?—In 1890 the British Government made inquiries in Paris, through the Embassy, as to the Paris system, and I was requested by the Ambassador to furnish him with a full report, which, it goes without saying, I was very happy to do. I elaborated a report upon the subject, and I have the honour to show the Committee a letter which was sent to me from the British Ambassador; it is written in French, but I hand in a translation (*handing in the same*).

2863. It is a form of request to you to draw up a report?—Yes. In 1895 I interested his Grace the Duke of Fife in the idea of forming a society on similar lines to that in Paris, and I have the honour to read a short letter from the Duke of Fife (*reading the same*). Lord Lister also promised to join such a committee, and I produce a letter from him (*handing in the same*). In 1897, thanks to a letter of introduction from Baron de Courcel to the London County Council, I was able to see the Chairman of that Council on the matter of street ambulances, and I hand in a letter from the French Embassy giving me three letters of introduction (*handing in the same*). That was my first start with the London County Council in that year, and I should like to be allowed to read the following letter from Mr. Baxter Forman: "Dear Sir.—According to promise I mentioned to-day your project with regard to a new ambulance service for London, to the Public Health Committee. They were not, however, prepared to consider it with a view of recommending to the Council to adopt it. I conferred with the Chairman of the Council on the subject. He has great sympathy with the object of your desire, as indeed all of us have who know anything of the matter, and he recognises the great deficiency of London in this particular, but he follows the Committee in not seeing his way to associating himself with the scheme. At the same time he would be pleased to receive any reports you may care to send. Yours faithfully, (Signed) E. BAXTER FORMAN." I also hand in a letter which I received from Sir William Collins in 1891. Then in 1901, through Lord Carrington, Lord Tweedmouth and M. Cambon, we re-opened the question with the London County Council, and that body appointed a committee, of which Sir William Collins was chairman. I hand in letters from Lord Carrington and Lord Tweedmouth acknowledging the receipt of my scheme (*handing in the same*). In 1902 I submitted a written report to the Corporation of the City of London, and I was asked to appear before a committee and give evidence. That committee issued a report in 1905. I hand in letters that I received from the Lord Mayor and the Clerk of the London County Council.

2864. Now will you tell us about your proposals for an ambulance service in London?—The ambulance system which I have the honour to suggest for London consists of a complete organisation for rapidly rendering medical and surgical aid to the victims of accidents occurring in the streets, in workshops and theatres, at fires, &c. My plan would be to establish four central stations, one after another.

2865. You mean successively, first one and then another?—Yes, because you can always improve in each succeeding one and see exactly where to place it. They should be established either in hospitals or other places situated in the areas where most accidents occur. Each central station should have a staff of three medical students or skilful attendants, two of whom should be on duty at a time, and a telephonist. It should have stabling for three horses, three specially constructed ambulance carriages, provided with a removable stretcher to be used as a bed inside the carriage, and a room with two beds, to receive patients temporarily. The stations should be connected with all the telephone exchanges, and it would be still better if they were connected by telephone with street fire-alarm boxes, which could be used for both purposes, or with chemists' shops, to which patients, particularly women—might be first taken. Two of the three carriages should be in use at a time, and the third held in reserve. One carriage should always be in readiness to start on receipt of a call. The medical attendant accompanying the ambulance should have a printed form on which to enter the injured person's name, the nature of the case, and various medical and other details neces-

sary for statistical purposes. I have already handed in a specimen. This system is in operation in Paris, Vienna, Buda Pest, Cracow, Berlin, Warsaw, Moscow, Kieff, all the towns of the United States, &c. I have already mentioned the number of medical attendants necessary for each station. On receipt of a call, one of them should start in the ambulance and, on reaching the scene of the accident, gave the injured person First Aid, using for that purpose the medicine and appliances contained in the ambulance. The patient should be placed in the carriage by the driver, assisted by a policeman or any other person available, and conveyed either to the nearest hospital, to the ambulance station or to his home. Each station should consist of a double bedroom, an office for the medical attendants on duty, a room for the drivers, a telephone cabin, a stable for three horses, and a coach-house for three carriages. As to the carriage, it should be of light construction, so as to allow of its being drawn by a single horse, as in Paris. In Vienna the ambulances are much heavier, and need two horses. I think the cost of maintaining such an ambulance station in London would be from £1,200 to £1,500 per annum. This includes the remuneration of the medical attendants, drivers and telephonist, the board of all the drivers, fodder, repairs to carriage and harness, and other sundry expenses. I assume that the stations would be established either in hospitals or in buildings belonging to the County Council, and therefore do not allow for any rent. It would be essential, for the efficient working of the system, that it should be placed under the control of a special medical inspector or superintendent, whose duty it would be to watch it carefully, both from a medical and surgical and a general point of view. This official should see that the medical attendants are competent and do their duty, that there is no delay, that the medicines and surgical appliances and stores are sufficient for all requirements, that the stations, carriages, telephones, &c., are in perfect working order—in short, he should superintend the whole organisation. The above briefly indicates the main lines of the system, without, however, touching upon its details, which would have to be adapted to meet the special needs and circumstances of London. I would like to add that, considering the great size of London, it would be well, and indeed necessary, to have a motor ambulance, which would be used for responding to calls received by any of the stations from beyond a distance of, say, three miles. Within this limit, the horse-drawn ambulance would be able to reach the spot in from two to eight minutes.

2866. That is the plan which you submitted to the London County Council?—I submitted also a full report to the London County Council, but I do not remember whether it was as complete as what I have just stated to the Committee.

2867. Is there anything else that you wish to add to that statement?—I should like to say that I have seen in the evidence a great discussion about giving First Aid to anyone injured in the street, and also about women being exposed to examination in the open street. I think it would be an excellent thing from the humanitarian point of view to arrange that in places where most accidents occur the patients, especially women, should be taken into a chemist's shop. I think that would be the most practicable thing. No matter what you do the cases are always exposed in the street for examination and for First Aid before the ambulance arrives, even if it is only for a short time. I think that the case should be taken in somewhere, and the chemist's shop is a public place. When any person finds himself ill or indisposed he naturally goes into a chemist's shop and says, "Will you give me something"—it is done every day. Why not, then, take a person who is very seriously injured, or is taken suddenly ill, into a chemist's shop where First Aid could be given? And would it not be a good idea that every chemist should have a course in First Aid; I should think they would be very glad to do it. In Paris the *pharmaciens* are obliged to study a little surgery in a hospital and to learn something about First Aid, but we prefer that they should not go further; we prefer to call for the ambulance as quickly as possible, as they do in America, and as they do in all the cities of Europe which have organised an ambulance service on the lines which I had the honour to submit to the French Academy of Medicine in 1880. In that way the chemists render great service at once until the ambulance arrives with a medical man and with all the needed appliances to give First Aid, and to take the patient either to his home or to the nearest hospital. Why could they not do that in London? It would not be necessary to include all the chemists; all that would be necessary would be to find out by statistics where most accidents take place.

and to see where the nearest chemists' shops are and to ask their permission to take the injured person in and to telephone immediately for any ambulance which may be available. We are making progress in these matters every day, and many things are adopted now that were not formerly known, because the necessities of life are so different now, traffic is so much greater and accidents are more frequent, and so on, and the chemists, I think, would be only too pleased to help, because it would give them a sort of prestige, particularly if they learnt something of First Aid.

2868. Are your chemists in Paris subject to any laws like our chemists? I do not know whether you are acquainted with the law here with regard to a chemist prescribing, and so on? Are your chemists allowed to prescribe?—No, not at all, but people go in and ask them nevertheless, and you cannot stop it. Only if a chemist should make a mistake and poison anyone he would be liable, but as long as that does not occur there is nothing of the sort. He would not give a poison to a patient who asked for it.

2869. I suppose he could not legally treat a case surgically?—He does it; he does what is necessary at once. He applies a ligature to stop the bleeding, or he takes some perchloride and applies it to stop hæmorrhage. But that is all he does. He has to call for the ambulance at once.

2870. There is no such custom in London as there seems to be in Paris?—It would be introducing a new thing. And you would not need so many chemists. If you had four stations in London you would need four times forty chemists.

2871. That is to say, in other words, if you had only four stations you would require some place, a chemist's shop, or something of the same character, to which patients could be carried, and where they could be taken care of pending the arrival of the ambulance?—Yes, and I think that no chemist would refuse, on humanitarian grounds.

2872. I was not on that point. But, whether it would be a chemist's shop or some other place, you think that some place of that sort would be required?—Yes, and no one would refuse; but a chemist's shop would be better because the policeman would know where the chemist was. For instance, yesterday I myself, in Regent Street, near a French café, saw a great crowd, and I learnt that a lady had been injured. There was a policeman with her and she could hardly walk. Where he took her I do not know. I was passing in a carriage, and I saw a big crowd accompanying the policeman. It would have been much better not to have made that poor woman walk; she had great difficulty in doing so. In Paris she would have been carried immediately to the nearest chemist's shop; and there was a chemist's shop close to that café, but the policeman went off in a different direction. Now that is very serious to a person who has been injured. That lady was suffering needlessly by being made to walk; she ought to have been carried immediately to a place where she would not be exposed to the curiosity of that big crowd.

2873. Does that complete what you wish to say?—Unless you want to ask me any other questions.

By The Earl of Stamford.

2874. You speak of a staff of three medical students or skilled attendants. Have you any views as to the staff consisting of trained medical men, or do you think that men who are skilled in First Aid would be adequate?—I would much prefer to have medical attendants, but if that is not practicable it would be sufficient to take someone who has really studied how to take care of injured people—a medical student, say, who has almost finished his course, and, if you like, he might have to pass a special examination in ambulance work. You would not need many. Supposing that you had four stations you would only need twelve, and you need not pay them very much, say £6 a month. We have only three in our hospitals in Paris. They would, moreover, acquire experience and it would be of great benefit to them in their future profession. In Vienna and the other cities in Europe they have medical attendants accompanying the ambulances when they are called, and even in Warsaw, which is a poor city, they have the same system of ambulances, which they adopted later on, and they also have medical attendants. That has proved very useful in cases where it is necessary to make a diagnosis at once and to give the First Aid immediately, before the cases are taken to a hospital or to their homes, and it is only a man who has been studying medicine and surgery for a certain number of years who is competent to deal with such cases. It is more a guarantee for the public.

Dr. H. Nachtel.

2875. When you speak of taking patients into chemists' shops, would you consider that there are cases in which it is advisable to move the patient as little as possible?—They are always taken in, no matter what the case is. There is no danger in two policemen, or one, taking the patient in their arms and carrying him to the nearest chemist's shop or other place of shelter.

2876. Even in a case of serious fracture of the lower limbs you think it is a safe way?—They could take the patient on a stretcher, if they found one available, into the nearest chemist's shop, but in Paris the Police take them in their arms into the nearest chemist's shop, where they are laid down and the ambulance is called.

2877. Have you heard anything of the results of the inquiries in Paris which have been held recently with regard to the merits of a motor ambulance service?—In Paris they have not done anything yet in that matter. I do not know it officially, but I have been told by some one in the St. Louis Hospital that there is some question of having some motor ambulances.

2878. Dr. Martin told me in February that they were making inquiries?—Yes, I believe that is the case.

2879. Is your own opinion in favour of a horse ambulance?—Yes, I am in favour of horse ambulances because they are cheaper. I am not against motor ambulances by any means, but horse ambulances are cheaper. I noticed in the estimate, which Sir William Collins submitted to the House of Commons and the House of Lords, that a motor ambulance was estimated to cost £560, whereas an ambulance carriage, such as I have had the honour to submit to the Committee, would cost only £120, which makes a great difference. And then, besides that, there is no certainty about motor ambulances, and it seems to me that for the present, at any rate, horse ambulances are more certain and less expensive. Later on, when motor vehicles have made more progress, when they are more certain, and have become cheaper, then the present horse carriages could be used for other purposes and motor ambulances adopted.

By the Chairman.

2880. I found this summer that neither at Boston nor New York were they in favour of motor ambulances as against horse ambulances?—Yes, I have a letter here to that effect from an American gentleman who wrote to me last year after having seen the motor ambulances in New York. He tells me that motor ambulances have been abandoned in New York and that they are coming back to horse ambulances because of the skidding.

2881. We should be glad if you would read the letter?—It is as follows:—"My Dear Doctor Nachtel, I am delighted to see that you are pursuing your hobby as vigorously as it appears in the *Daily Chronicle* of the 1st inst. If you will permit me to do so, I will remark that your objection to automobile ambulances about their expense, is not the most important one, by any means. You are quite right in advocating horse ambulances. Nearly all of our large New York hospitals have automobile ambulances, but invariably use their horse ambulances to answer calls with, because much difficulty has been experienced with the autos. On wet streets they continually skid, the electric ones as well as the petrol cars are noisy, and disagreeable, as well as fatal occasionally to the patient if he is in a critical condition. They are, what is more still, literally useless if there has been a medium snow fall, as they continually get stuck, and all they can do is to stand still in one spot and wear out the tyres spinning round in the rut. Then again, they are everlastingly breaking down, and the electric ones run short of power in a short time, especially if there are many calls during the course of the day, and a motor car without power is worse than no ambulance at all. In short, the autos, are almost exclusively used for the transferring of patients from one hospital to another, and are only used to answer calls with when all the horse ambulances are out, which seldom occurs. The fire department of several large cities like Chicago, Kansas City, Boston, &c., also tried automobile fire engines, and after a short time put them out of commission, and returned to their horse engines, as they proved themselves incompetent of rendering the proper services."

By the Earl of Stamford.

2882. The ambulance service in Paris was under private management until 1895, was it not?—Yes.

2883. Since that time it has been under Municipal control?—Yes.

2884. Have you been able to follow the effect of the change in any way; should you say that the service has been improved or not?—I am sorry to say that our Committee have several times found it necessary to make representations to the Prefect of the Seine on the matter, because the municipality, though they agreed with us to carry out the scheme as we handed it over to them, have modified it to the detriment of the system. For instance, as I stated last week, they have decided that it is not necessary to keep the ambulance horse harnessed ready to start. Everybody knows that that is quicker than if you have to harness the horse when the call arrives. Also we had put up boxes in the chemists' shops, so that when any person was taken to a chemist's shop they could call directly to the St. Louis Hospital for an ambulance. Now they have done away with those posts and have made a central exchange station. That was the idea of Dr. Martin, in order to save his own time, because he has so much to do; he could not do what I did, when I gave my whole time and attention to the service. While it was in our hands we always responded as soon as a call arrived at the hospital, in from two to ten minutes as the maximum. I say two minutes because the nearer the call station was to the hospital the quicker the ambulance came. The maximum distance was three kilometres, and that took up to ten minutes, of course.

By Sir William Collins.

2885. Does the system cover the whole of Paris now?—No, as I stated last week, there are only two stations, the St. Louis Hospital and Caulaincourt; and then they have an infectious diseases service besides. I forgot to state that the suburbs of Paris have, also, each of them an ambulance carriage; they are Asnières, Pantin, Boulogne-sur-Seine, Clichy, St. Ouan, Clamart, Levallois-Perret, and Fontenay aux Roi.

2886. Are there not seven institutions now altogether?—No, I do not know of any more than the two I have named. They had one at the Marché St. Honoré which they have discontinued; they have only the St. Louis Hospital and Caulaincourt, and, as I say, they have another for infectious diseases, which they are obliged to keep entirely separate.

2887. Are injured persons carried to a hospital in Paris on a hand ambulance now?—Yes; if they cannot get a carriage they take what they can get.

2888. Does that often occur?—It occurs sometimes, but they do not arrive as quickly as they did when the service was in the hands of our Society, because there is loss of time owing to the changes which the Municipality have made.

2889. When your Society had the matter in hand did all the cases of injury go by these rapid ambulances?—Yes, for five arrondissements only. That is the area of the St. Louis Hospital, which I estimate to include about 350,000 inhabitants.

By the Chairman.

2890. What proportion of the whole of Paris would that be?—There are twenty arrondissements, but I cannot say exactly how many inhabitants there are in each arrondissement. In some of those five arrondissements that we have there are fewer inhabitants than in others, but I calculate that we served about 350,000, and we always answered our calls promptly.

By Sir William Collins.

2891. You seem to favour a voluntary society managing such a service rather than a public authority?—If the public authority were to do it on the lines which I have submitted to the Committee it would work perfectly well.

2892. Can you tell us of any particular town where, in your opinion, there is an efficient ambulance service worked under a public authority?—No, they are all volunteers.

2893. How about America?—In America it is under the Municipality.

By the Chairman.

2894. In what respect do you say that it is under the Municipality in America?—It is the government of the city which supplies the funds to support the ambulances at the hospitals.

By Sir William Collins.

2895. For instance, is the Boston system, in your opinion, satisfactory?—I am afraid I do not know the system at Boston.

Dr. H. Nachtel.

2896. You had something to do with the New York system, I think?—I have seen the working of the Belle Vue Hospital system.

2897. Do you regard that system as satisfactory?—Yes, perfectly. That is the scheme which I had the honour of introducing in Europe before the Academy of Medicine in 1880.

2898. As to which you were so good as to give us information before the County Council Committee?—Yes.

By the Chairman.

2899. I just want to clear up a point about America. You say that in New York the system is supported by the Municipality?—Yes.

2900. It is true, of course, that Belle Vue is a municipal hospital?—Yes.

2901. And there are, I think, three other hospitals which are connected with Belle Vue?—Yes.

2902. But there are several other hospitals which are private institutions in the sense that they receive no municipal aid?—That I do not know, because in 1878 I only studied the ambulance service of Belle Vue.

2903. I thought your statement was a little too general. At present, if I am rightly informed, there are a good many hospitals in New York which receive no aid from the Municipality and yet have an ambulance service attached to them?—I am only talking about Belle Vue, which I have seen.

2904. Belle Vue is no doubt a municipal hospital?—That is so.

Dr. ARTHUR H. DOWNES, M.D., called and examined.

2905. You are the senior Medical Inspector for Poor Law purposes of the Local Government Board?—Yes.

2906. And you have been an Inspector of the Local Government Board since 1889?—Yes.

2907. I do not know whether you have read the evidence which has been given here by the representatives of the Metropolitan Asylums Board, Mr. Lyon and Mr. Mann?—I am sorry to say that I have not been able to study the evidence; perhaps the Committee will draw my attention to any particular point.

2908. First of all, taking it in the order of your own Memorandum, you deal first of all with the powers of the Boards of Guardians. As a matter of fact we have been informed, and I think we have a list, as to the ambulances possessed by different Boards of Guardians; and Mr. Lyon, the Chairman of the Metropolitan Asylums Board Ambulance Committee, says that they have a very large supply of ambulances and that they have, as a matter of fact, of late years been in the habit of answering calls by the police to some extent, not to a very great extent, and using those ambulances for that purpose, but that, strictly speaking, that is not within their powers. Is that so?—Yes, that is so.

2909. And his view is that the Guardians and the Metropolitan Asylums Board together have ample resources which would enable them really to meet the requirements of London for horse ambulances in case of street accidents, if the regulations of the Local Government Board and the law permitted them to do so. I suppose it is the case that both the Guardians and the Metropolitan Asylums Board, strictly speaking, can only in the case of paupers use their means of conveyance for patients suffering either from accident or sudden illness?—As regards the Guardians that is the case. I understand that there is no statutory power for the Guardians to deal with any but paupers; but in the case of the Metropolitan Asylums Board they can deal with non-paupers in the case of an infectious disease.

2910. That is under the Public Health (London) Act, 1891?—Yes.

2911. Then practically it comes to this, that supposing that it were desirable—I am not prejudging the question at all—to give them extended powers, it would require legislation to enable them to use their ambulances in answer to calls made by the police or anybody else in case of sudden emergency—cases happening in the streets, and so on? I suppose the Local Government Board would say that they have no power to sanction such use of them?—I believe it would be so.

2912. If they are to be used for that purpose, legislation would be necessary?—Yes, but I should say that there has never been any objection raised on the part of the Local Government Board to the casual use of the Guardians' ambulances. In the particular case that Mr. Lyon was interested in the circumstances were rather exceptional.

2913. Is that the case where the fact of the cost of the ambulance being £1 over £50, not under £50, gave you jurisdiction?—It was a little more than that. The Guardians asked for express sanction to purchase an ambulance for this particular purpose, and the Local Government Board obviously could not sanction an illegal purchase.

2914. I suppose you may say that both in the case of the Guardians and in the case of the Metropolitan Asylums

Board legislation would be necessary to permit of expenditure for such a purpose?—In the case of the Guardians if they are to deal with non-pauper cases, and in the case of the Asylums Board if they are to deal with non-infectious cases.

2915. That comes to the same thing; accidents would fall under those categories?—Yes.

2916. I do not quite know how far I ought to ask you any questions on matters of policy, as to what the attitude of the Local Government Board would be towards a proposal of that sort, should it be considered desirable to make any such proposal?—I think I may say this much, that the Local Government Board are rather awaiting the consideration of the whole question by this Committee, and are further precluded from expressing any definite views as to policy at the present moment because a Royal Commission is considering the whole question of the Poor Laws.

2917. Therefore, so far as the Local Government Board is concerned, we have a free hand; we should not be running counter to any settled policy of the Local Government Board if we came to the conclusion—I am not in the least assuming that we have—that it was desirable that powers of this sort should be given, and that a step could be taken for meeting the needs of London by utilising this store of ambulances possessed by the Asylums Board and the Guardians?—I should define the attitude of the Local Government Board at the present time as one of expectancy and benevolent neutrality. I suppose what we would look to eventually would be that in any arrangement that was made the Poor Law service must not be detrimentally affected.

2918. It was put to us rather the other way by Mr. Lyon. It was put to us that it would be an advantage rather, because the Metropolitan Asylums Board would always have some ambulances that they could apply to the purpose, and they would get payment for it?—I am not sure that I should altogether agree that there would be a profitable advantage.

2919. There is, of course, the broader question, which was raised before us just now, whether or not it is desirable that there should be payment for services of this sort at all. Certainly a poor person might not be an actual pauper but could hardly be expected to pay 7s. 6d. for the use of the ambulance?—Quite so. In the case of the Boards of Guardians considerations of this sort might come up: Who is to go with the ambulance? The master of the workhouse may not be able to spare an officer to go with it, and sometimes something may happen; e.g., in the case of a lunatic, if the proper officers were away with the ambulance.

2920. That is just the kind of information that we want to get from you. We shall be obliged if you will tell us what would be the practical difficulties in carrying out any suggestion of that sort as to utilising either the ambulances of the Guardians or the ambulances of the Metropolitan Asylums Board for purposes of this kind?—I could give you a concrete instance of Mr. Lyon's own workhouse. At the time that the Westminster Guardians proposed to purchase this ambulance from the Metropolitan Asylums Board I inquired into the facts, and I did so more especially because I rather hoped they might be able to arrange with a neighbouring union within a very short distance, (the Union of St. Giles and St. George, Bloomsbury, within probably half-a-mile, where they have an excellent ambu-

Dr. A. H. Downes.

lance), and the two unions send their sick poor to the same infirmary in Cleveland Street close by. What occurred to me in the first instance was, why could not the two Boards of Guardians arrange to use one ambulance service? Therefore I went up to find out what the facts really were. My visit was in April, 1906, and I found that, as a matter of fact, they had practically already purchased this ambulance, and that the Asylums Board were pressing for payment, so that our sanction was asked for after the event. Accordingly my object of amalgamating the two unions for ambulance service purposes was too late. I found that from October 31st to March 30th only 11 cases altogether had been removed in this ambulance, and only six of these were paupers. Five were non-paupers, and I have notes of the non-pauper cases.

2921. Were those accident cases?—The first non-pauper case was a private patient suffering from dropsy taken to Charing Cross Hospital, with the labour-master in attendance from 1.45 to 3 p.m. That you see withdrew an officer from his proper duties. Then the next case was a publican, a cut throat case, taken to the Middlesex Hospital, with the labour-master and day porter in attendance from 10.50 to 11.45. The third case was a non-parishioner resident in St. Giles, taken to the Home for the Dying, with the assistant-master in attendance from 9.50 to 11.30.

2922. Would that have been a pauper case if he had been a parishioner?—It is a non-pauper case and a non-parishioner. The fourth case was the removal of a clergyman to Fitzroy Square. Two officers of the workhouse were in attendance from 2.55 to 3.45.

2923. What was the clergyman's case; was it an accident?—I do not know what the nature of the case was. I do not think it was an accident. The fifth case was a cancer case from St. Luke's Home for the Dying in Bayswater to a residence in Bayswater; the assistant-master was in attendance from 10 to 11.40. This also was not a parishioner case and, therefore, did not fall within the Guardians' own resolution for the use of the ambulance. Those were all the cases in that period.

2924. Then one objection at all events is with regard to taking officials away from their duties, for the purpose of attending with the ambulance?—Yes, unless the thing is thoroughly organised.

By Sir William Collins.

2925. Was any one of those cases an accident?—One was a cut throat case.

2926. Was it a street case?—No, not one of those was a street case.

By the Chairman.

2927. The evidence I think, if I remember right, was that the police occasionally asked for the Guardians' ambulances, but not very often, for accident cases?—Yes. I further found at that time that much the larger proportion of the cases sent from this workhouse were sent in cabs, and I was not satisfied that cabs were not used sometimes when an ambulance would have been a more proper vehicle.

2928. Those were proper and legitimate cases?—Those were proper and legitimate cases, being removed to the infirmary.

2929. I rather gathered from what you said that supposing a system could be organised for the ambulance to be used simply for the purpose of conveying an accident case from the place where the accident happened to the nearest hospital, and without making any undue demand upon the staff of the Guardians—supposing, for instance, they did not send anybody, but simply allowed the police to use it as a means of conveyance—you would not raise any strong objection except on the question of legality?—If a system could be organised so as to be efficient and economical I do not suppose the Local Government Board would stand in the way.

2930. It does not strike you that there is any objection in point of principle to such change of the law as might be necessary?—The Board have not objected to the incidental use of these ambulances.

2931. That would be really an extension, so far as the Metropolitan Asylums Board is concerned, of Section 79 of the Act of 1891?—Yes. Whether under the present condition of things a system could be properly organised is rather another matter.

2932. That is another question which requires due consideration?—Yes.

2933. But still the way in which it is put to us is this: Here we have a great number of ambulances which are available and which might perfectly well be used for this purpose, if the law and the regulations of the Local Government Board allowed it; and it is suggested that that might be a partial solution of the present difficulty?—But I should myself say that it was a little more than mere legal permission that is required. There should be organisation, too. At the present moment, as inspector in the Metropolis, I would gladly see some greater organisation of the Guardians' ambulances for their own uses, quite apart from outside questions.

2934. We are limited by the terms of our Reference with regard to that, you know?—Yes. I wish your Reference had been wider myself.

2935. Our Reference is a very narrow one, covering only cases of street accident and illness?—Yes. I have always hoped, myself, that a service that was available for street accidents would at any rate be available for accidents arising on private premises. It would seem absurd that if a man fell on the kerb he should be picked up by one ambulance service, and if he fell on his own door-step he should be picked up by another.

2936. It is possible for us to bear that in mind and not to make recommendations which are inconsistent with such extension; but still at present, as things stand, the one question is within our Reference and the other is not.

2937. I see you note in your *précis* the use of the infirmary as a place to which cases may be taken?—Yes. I have tried very roughly to indicate the position of those infirmaries in distance from Charing Cross. It must be taken provisionally, because I have only had a common map, and it may not be quite accurate in every instance.

2938. Is there any difficulty now as to the reception of cases of that kind by infirmaries?—There is no difficulty in the reception of a case of urgent necessity.

2939. Irrespective of the question whether the person is actually a pauper?—Quite irrespective of that; his need for the moment is the dominant consideration. I may say that in the Consolidated Order of 1847 there is a provision enabling the master of the workhouse to admit a case of sudden urgent necessity without any order, and the modern Infirmary Orders contain a similar provision. Some of the old Infirmary Orders do not contain that provision, because in the first instance it was supposed that all the cases that went to infirmaries would be transferred from workhouses, but that has been superseded. But we have not found it necessary to issue in every case a special order because, as a matter of fact, the medical superintendent of the infirmary uses his discretion very properly.

2940. Therefore there is practically no difficulty, I may take it, in a case, if necessary, being taken to the infirmary? I think the evidence shows that they are generally sent to hospitals?—It is very rarely indeed that any question is raised as to improper use of the Medical Superintendent's discretion. The only case recently that I have in my mind was at one of the infirmaries, where the lady doctor refused to take in a case brought by the police, but in the end it turned out that the lady doctor was right. The case which the police brought, thinking it was one of sudden urgent necessity, was really a woman who had been discharged from the workhouse of the same Union that same morning in order to go to her own proper parish, to which she did not wish to go. So in the end the Medical Superintendent's discretion was upheld.

2941. Is there anything else that occurs to you?—On that question of the admission of cases of urgent necessity the Committee would obtain definite information of the extent to which it does go on under the present system at Camberwell. The Camberwell Infirmary is a conspicuous example of what I may call the use of an infirmary for casualty purposes. They have had at that infirmary about 600 operations in a year, a large proportion of which were caused by street accidents.

There is a further point which I ought perhaps to mention to the Committee, that the public, and sometimes the police, do not seem to distinguish quite sufficiently between an infirmary and a workhouse. I had, three or four years ago, a very striking case of the confusion that there is in the public mind on that matter. I do not know whether I need give the details.

2942. Perhaps you will just illustrate what you mean?—The facts of the case are these: On February the 13th, at 5.40 p.m., a man was found lying unconscious in the street. He was taken to a hospital by the police and the house

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surgeon pronounced him drunk. At 6.45 he was admitted to the police station. At 4.30 next morning he was still unconscious, and the police surgeon was sent for; he was certified as comatose, suffering from a contusion at the back of the head, not in a condition to be detained in a police cell, and removal to an infirmary was advised. At 4.45 a.m. he was taken to a workhouse. At 5.45 a.m. the night nurse saw him in the receiving ward asleep, as she thought, she did not know the circumstances of the case and did not call the medical officer, who was non-resident, or any officer of the workhouse. At 10 o'clock the medical officer of the workhouse made his ordinary rounds, found the man deeply comatose, said it was a hopeless case and ordered him not to be moved. At 3 o'clock in the afternoon the man was found lying on the floor and the doctor was again sent for. He then had him moved to the insane ward at about 5 o'clock, he had nowhere else to put him, and at 11.30 the man died. The post-mortem examination disclosed cerebral hæmorrhage, extensive disease, both recent and old. Then the next stage was the Coroner's inquest, where the Guardians were censured by the jury for not having proper provision for sick people. In the end the Local Government Board wrote to the Coroner pointing out that the place was a workhouse and not an infirmary. The man ought to have been taken either to a hospital or an infirmary. But clearly it was a hospital case.

2943. I see that the Commissioner of Police, speaking of the distance that cases have to be conveyed to a hospital or infirmary, gave this evidence: Sir William Collins asked (Q.) "Then you are using an infirmary as if it were equally available for such cases as hospitals?—(A.) I am taking the infirmaries which we know to be available. I am only taking them from actual facts. If a case went to an infirmary within a quarter of a mile it is shown." That looks as if there were certain infirmaries that the police know will take these cases?—Yes, the infirmaries which do most of this casualty work are those where there is no hospital in the neighbourhood.

2944. No doubt that is what the Commissioner meant: that they take them to the hospital if there is a hospital available, and if not they take them to the infirmary?—Undoubtedly. No doubt these cases should be taken to a hospital if it is available. In the case which I have given there were several hospitals within a short distance.

By Sir William Collins.

2945. Camberwell is rather conspicuous in London for not having a hospital readily available?—Yes, that is so, and it is a district where apparently there is a considerable number of street casualties.

By the Chairman.

2946. That is a return (*Appendix V., Table (C)*) of infirmaries in the Metropolitan Police District which was handed to us by the Commissioner of Police (*handing the same to the Witness*)?—One or two of these are beyond the Metropolitan area, but within the police district.

2947. The Commissioner was dealing with the police district?—And one or two of these are workhouses. St. James's, Poland Street, is a workhouse.

2948. Would a patient be received there?—There is no medical staff there, only a nursing staff to look after some of the old people, not to look after ordinary sick wards.

2949. Is there any other case?—I will mark them on the list (*Appendix V., Table (C)*). There are eight altogether which are workhouses, St. James's; Bear Yard; St. Giles, Bloomsbury; Holborn; Newington; St. Olave's, Bermondsey; St. George's, Southwark; and Camberwell, Constance Road, East Dulwich.

By Sir William Collins.

2950. Are those eight which you have marked places at which you think urgent cases of injury or serious illness ought not to be taken?—I should not regard them as places specially equipped for dealing with such cases.

2951. If a case was sent what would happen to it?—They would send for a doctor, but it does not follow that he would be able to come immediately.

2952. Would there be a resident doctor there?—I think the City Road, Holborn, has a doctor, not exactly resident, but who lives close by and gives his whole time. The Constance Road workhouse of the Camberwell Union has a resident doctor, but that is quite exceptional in a workhouse.

2953. And there would be no resident doctor for the others that you have named?—No; and usually the

doctor is not a gentleman who gives his whole time, he is an ordinary practitioner.

2954. Is there any statutory power at the present time for either the Metropolitan Asylums Board or the Boards of Guardians to use their ambulances for street accidents?—None of which I am aware.

2955. In that case which was alluded to by Mr. Lyon at Question 619, when the Local Government Board sent a letter on the 23rd of April, 1906, would the Guardians have been liable to surcharge if they had embarked upon that expenditure, so far as they used the proposed ambulance for other than pauper work?—The auditor can always surcharge an illegal expenditure. If there is no legal authority for the expenditure it would be his duty to disallow it.

2956. It was not merely a case of there being one pound over the £50 limit?—No, that was merely the incident which brought the matter to my own cognizance.

2957. Any expenditure incurred by any Board of Guardians for such purpose, being other than a Poor Law purpose, would have been liable to surcharge?—The expenditure must have gone before the auditor in any case, but it does not follow that the auditor would have been aware of the full circumstances of the case. I, as Inspector, became aware of the further circumstances. In the application of the Guardians, I have their letter here, they say, "The object of the purchase is that there shall be a vehicle in readiness at call for (1) ambulance cases requiring removal to the Sick Asylum, Cleveland Street" (that purpose was legal), and "(2) street accident cases requiring removal to hospitals, &c." Of course the Local Government Board at once took exception to that, and said that they had no power to allow such expenditure.

By the Chairman.

2958. Although there was nothing to prevent your reversing the disallowance by the auditor, supposing that he had disallowed that particular item of expenditure, and you thought that on the whole it was not a case for disallowance?—The department in that case would consider the case on its merits and either confirm the disallowance or remit it as the case may be.

By Sir William Collins.

2959. Did the district auditor take exception in January, 1907, to an expenditure by the managers of the Metropolitan Asylums Board in regard to the use of their ambulances for non-infectious cases?—The district auditor took objection in January, 1907, to expenditure by the managers attributable to the use of their ambulances for non-infectious cases, and upon application by the Clerk the Board sanctioned the expenditure under the Local Authorities (Expenses) Act, 1887. The sanction so given, however, did not legalise the expenditure, but merely withdrew it from the jurisdiction of the auditor and so obviated a disallowance.

By the Chairman.

2960. That is what I meant in my previous question?—That is so.

By Sir William Collins.

2961. Is there any legal authority for the use of the Metropolitan Asylums Board's ambulances for cases other than infectious cases?—Only for their own purposes for the removal of their own cases of imbeciles and children under their charge. I take it that their general powers would give them authority to remove cases for which they are responsible, but there would be no authority, so far as I am aware, for dealing with cases outside that category.

2962. Would they be able to deal with what are called private removals of medical cases which have not been in any of their own institutions?—Only if they are infectious cases. There is statutory power for them to remove private infectious cases elsewhere than to their own hospitals.

2963. But there is no statutory power to the Metropolitan Asylums Board to use their ambulances for the removal of non-infectious patients who have not been in one or other of their own institutions?—None at all.

2964. Do you know whether there have been any communications initiated by the police with the Metropolitan Asylums Board with a view to utilising their ambulances for cases of street accident or casualty?—I believe that the matter arose in an informal way through a communication between Mr. Lyon and the police, and it was subsequently considered by the Asylums Board.

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2965. Can you tell us how that matter stands now?—The Asylums Board eventually, I believe, made an application to the Local Government Board for authority. I have a letter here dated 30th November, 1903, from the Asylums Board to the Local Government Board applying for legal authority for the extension of their ambulance system “so as to include the transport of medical, surgical and mental cases for which application may from time to time be made by any authority or person within the Metropolis; provided that such extension of the ambulance service shall not be held to include the removal of cases of street accident, nor of patients to and from the several lunatic asylums under the control of the London County Council, unless by special sanction of the Ambulance Committee, or, in emergency, of the Chairman of that Committee or the Clerk to the Board.” Then the letter continues, “I am to state that when this authority is accorded to, or obtained for, the managers, the work will be immediately undertaken by them, a charge of 7s. 6d. being made in respect of each removal, and, in addition, a mileage charge of 1s. 6d. beyond the boundary of the Metropolis.”

2966. What was the opinion of the Local Government Board on that?—The opinion of the Local Government Board was that the matter should be considered by the London County Council conjointly with the Managers.

2967. Have the Local Government Board expressed any opinion on the legality of that proposal?—I think that the Managers admit the want of legality, because that is the purport of their application, that authority should be obtained.

By the Chairman.

2968. They simply asked the Local Government Board to promise to disallow a surcharge?—At an earlier stage they asked the Local Government Board to obtain legislation for them, so that they were aware of the illegality.

By Sir William Collins.

2969. We were told by Mr. Lyon that seven of the Boards of Guardians had acknowledged that their ambulances were available, as I understand, for street accidents. Is that recognised by the Local Government Board?—I do not think there is much use made of the Guardians' ambulances for street accidents. They are used on an emergency occasionally. Mr. Lyon mentioned St. George's, Hanover Square, but I do not think their ambulances are used so much for street accidents as for private removals, in the case of people who have servants, possibly, that they want removed to a hospital; and at St. George's, Hanover Square, the whole payment that they obtained from private persons for that sort of service in the year was about £11, so that it is on a very small scale.

2970. I think you said that you would desire to see an improved organisation of the Boards of Guardians' ambulances?—Yes, I should.

2971. Do you consider the present service unsatisfactory?—It is unequal; some Guardians appear to have paid more attention to it than others. And the systems are very different; they range from an expenditure of £700 or £800 a year in one instance to an arrangement with a contractor at about £60 a year.

2972. Perhaps you would not desire to express an opinion as to whether the Poor Law ambulance service could be or should be associated with a general ambulance service for street accidents and casualties?—I could not express any official view on that point. Personally I should be glad to see some co-ordination for rendering services to the sick.

2973. Can you say whether it is common for cases of accident or disease to be taken to a hospital by the police and, not finding a bed available at the hospital, to be taken on to an infirmary?—I could not say whether it is common. I should hardly think it was for casualty cases. The difficulty is rather in the want of a hospital in the outer suburbs of London.

2974. Then while destitution is generally a condition precedent to admission to an infirmary they regard the need at the moment as the paramount claim in these cases of casualty or sudden illness?—That is the practice undoubtedly.

2975. Mr. Lyon told us of some 424 cases dealt with by the Metropolitan Asylums Board ambulances in 1906 outside, as I understood, their infectious service. Do you know what those cases would be? Would they be cases of their own patients being removed to other places, or cases

of imbeciles, or would they be cases of disease taken from the patients' homes?—The statistics I think are given in their Annual Report for 1906. My recollection is that they are these private removals which are outside their proper powers, some of them being no doubt street accidents and some of them private removals. I know that the Commissioner of Police has found their services useful in certain cases.

2976. Mr. Lyon told us, I think, that very few were street accident cases?—He would know; he is Chairman of the Committee. They have had some street accident cases.

2977. Would it be possible under present powers to co-ordinate the Guardians' services of ambulances with the Metropolitan Asylums Board service?—That is rather a difficult question to answer. At the present time the Poor Law service is divided up into many separate services, each Board of Guardians having its own officers entirely independent of the others, and, as I said, there is a Royal Commission considering the whole question.

2978. When you spoke of a possible improvement of the Guardians' service it occurred to me that, as most people agree that the Metropolitan Asylums Board ambulance service is very well done, possibly under the existing powers of the Guardians, the services might have been co-ordinated or amalgamated with the Metropolitan Asylums Board service?—That is to say you are contemplating a non-infectious service as well as an infectious service by the Metropolitan Asylums Board?

2979. We are told that it exists?—Only in a provisional way and to a tentative extent.

2980. The Guardians only deal with Poor Law cases, do they not?—Yes.

2981. The Metropolitan Asylums Board is perfectly competent to deal with all Poor Law cases, is it not?—Infectious Poor Law cases, and certain classes of paupers.

2982. Would the Asylums Board not have legal power to deal with some of the pauper cases that the Guardians deal with in regard to their ambulances?—No, not unless they come within the category that I mentioned some time ago, of imbeciles and certain classes of children.

2983. So that there would be some legal difficulty in the way of merging the Guardians' ambulances into the Asylums Board service?—I am not quite sure what the legal position there would be. The Local Government Board can by order authorise the Asylums Board to deal with any class of paupers, but apparently only for institutional purposes, and an ambulance service is not in itself an institutional purpose. The classes which I have mentioned, imbeciles and children of certain classes, come within the purview of the Managers for housing. They have to provide accommodation for them and, therefore, by reason of their general powers, they can deal with those cases.

2984. Do you desire to say anything as to the relative efficiency of the present ambulance service for street accidents in London?—Outside the Poor Law, do you mean?

2985. Yes.—No, it is not a matter that I have considered. But I should like to take this opportunity of guarding myself against any misapprehension as to what I have said about the Guardians' services. I think on the whole that the Guardians have given a great deal of attention to the matter; they have all of them greatly improved their services, and some of them have very fair services indeed. They provide in an increasing degree of efficiency attendants and nurses. One point which has been suggested to me lately, and I think quite rightly, is that their drivers should be trained in lifting and carrying and a few practical points of that kind.

With regard to the Metropolitan Asylums Board service and its extension to non-infectious cases, I cannot avoid some fear that there may not always be sufficient guarantee that infection will be separated from non-infection.

By the Chairman.

2986. We shall be glad to hear what you have to say upon that point?—At times the Managers are very hard pressed. This last autumn, for instance, they have had to move a very large number of cases daily; on some days they have removed over 190 fresh cases into the hospitals in a day, and probably there have been nearly as many more discharges and transfers. They may have a reserve of ambulances, but, so far as I am aware, those reserve ambulances are mostly kept down at the Mead Station, and some of the stations are very cramped for room: the South Western Station is certainly insufficient even for

this infectious service in time of pressure, and there is no systematic inspection which would guarantee that there is always a strict separation of the infectious and non-infectious vehicles and articles.

By Sir William Collins.

2987. I gathered from Mr. Lyon that the infectious and the non-infectious vehicles are at the same stations?—They are, I believe, at the same stations, and I think under rather crowded conditions sometimes. I further think that there would be a need of some skilled and constant supervision to see that there was a proper separation of infectious and non-infectious ambulances and articles. There is also the question of the separation of the staffs.

2988. I asked Mr. Lyon about that I see at No. 712. (Q.) "Are the staffs quite distinct?"—(A.) No. (Q.) They are not quite distinct?—(A.) No, but they always change their clothes?—Yes, that is the rule. I do not know that there is a guarantee that they always adhere to it. The thing is not organised.

Mr. A. CARNARVON BROWN, M.R.C.S., L.R.C.P., called in and examined.

By the Chairman.

2991. You are a member of the Royal College of Surgeons of England?—Yes.

2992. And you are Resident Medical Officer at the Farringdon General Dispensary and Lying-in Charity?—Yes.

2993. And recently you were Junior House Surgeon, Senior House Physician, and Senior House Surgeon, six months in each appointment, at the Great Northern Central Hospital?—Yes.

2994. Before that you were House Surgeon, House Physician and Casualty Officer, one year in all, at the North Eastern Hospital for Children?—Yes.

2995. I suppose it is your experience at the Great Northern Hospital that you will tell us about mainly?—Yes.

2996. Does the Great Northern Hospital serve a large area—what is the area?—It serves North London, the area for casualties extending principally along the main road that passes up Highgate Hill, the accidents are principally brought in from that part, and also along Seven Sisters Road. But there is no other hospital in that direction.

2997. Therefore they come long distances in some cases?—Yes.

2998. About what distances do patients come from?—From Whetstone, Barnet, and those places in that direction.

2999. About eight or ten miles, would you say?—Not quite as much, about seven miles.

3000. How would they come in from such long distances, generally?—They are sometimes brought in a carriage or if it is a motor car that has caused the accident they are generally put in that. But very often they are wheeled in by a policeman on the ambulance.

3001. Are there cases where they are wheeled in from a long distance?—Yes, some cases in fact take an hour and a half or an hour and three quarters to wheel them in.

3002. Which Division of Police is it?—I think it is the Y Division.

3003. I suppose you also have cases brought in from nearer?—Yes, from by Finsbury Park and just round there; there are factories round there, and also often painters tumble into the street or into the halls of houses. There are one or two cases that I have picked out. On May 16th this year a patient was brought up with a fracture of the thigh and injury to the head; he was brought up in a cab.

3004. From where?—I think it was from Highbury, near Highbury Station.

3005. Was he brought by the police?—No, he was brought up in a cab, but I do not think that was a police case.

2989. Do you think that the public would distrust a combination of an infectious and non-infectious service?—I think if anything untoward occurred it would have an unfortunate result.

By the Chairman.

2990. May I just read to you on this point the evidence not of Mr. Lyon but of Mr. Mann, the Clerk to the Asylums Board, at No. 946: "Every precaution is taken to prevent any suspicion of the vehicles or men employed on this work" (that is the non-infectious work) "being infected. The ambulances are painted a different colour and are kept apart from those employed on infectious work; also the men wear different uniforms (brown instead of blue cloth), and themselves are responsible for cleaning the ambulances on their return to the station after each removal, with utensils specially kept for the purpose." That was his evidence on the subject?—Yes, the rule is excellent, but the question is whether it is always possible to carry it out, and whether there is any guarantee that it is carried out.

3006. Was there no policeman with him?—No. His injuries were much aggravated, I think, by the way he was brought in. He was in hospital a long time afterwards.

3007. Do you know how the accident happened?—He was on a ladder and the ladder broke and he fell down a great many feet, I think 20. He was painting the side of a house. Whether he fell into the street or not I do not know.

3008. You do not know whether the police dealt with the case?—No. In a great many of our cases the police are called into the premises and houses to take cases.

3009. You mean that if an accident happens in a house the police are sometimes called in?—Yes, so it is very difficult to tell between the two kinds of cases.

3010. I suppose it is almost impossible?—Yes.

3011. Would you have a record at all of which were police cases and which were not?—Yes, there are a great many police cases, but very often the police are taking particulars, and the cases are brought up by someone quickly in a cab and the policeman follows afterwards, and it is not always entered.

3012. It is necessarily done in such haste that you cannot always be sure of getting full particulars?—Yes. Then there is another case of a fireman, about May. He was brought up in a cab. I think he was thrown from a horse when he was practising one of the Fire Brigade horses.

3013. Was that a police case?—No, it was not. It turned out to be a fracture of the base of the skull.

3014. How was he sent in?—He was sent in a cab.

3015. Is that a case where there was much aggravation?—Yes, I think it certainly was not good for him to be brought in that way.

3016. I suppose it is the most dangerous thing of all with an injury of that kind to be sent in a cab?—Yes. I think we get a great many accidents which are not actually brought in by the police. I do not think the police cases are so many as they would be in a more populous district. The police happen not to be near, and their friends or somebody near bring them in.

3017. Even although the accident may happen in the street?—Yes.

3018. I suppose the friends generally would take the first available conveyance, a cab or anything else that they could get?—Yes.

I have been looking through the statistics (*Appendix I., pp. 68, 80*) that were taken at the Great Northern Central Hospital, especially the latter ones, and I think that, principally in the latter part which took only police cases, there were several left out, I am sorry to say, in the returns.

3019. Those are only police cases, I understand, in that second return for September and October, but, of course, there are a great many other cases besides police cases?—Yes, that is only approximate. I have the number of all

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the casualties of all sorts, medical and other, during those two months. During September there were 1,081, and during October 1,005, so that I think the number of street accidents must be much larger than are entered there.

3020. You account for that by saying that whoever made out this table only took police cases?—Yes, in the latter part of it.

3021. Then I take it that your evidence is that many accidents happen in the streets and public places which are brought in otherwise than by the police, and of which you are not aware of the policeman having had any cognizance?—Yes. I have the number here of the cases that are actually admitted. There were during September five admitted as in-patients into wards and ten cases into the observation ward; and during October two were admitted as in-patients and six into the observation ward. Then I was there during the Highgate accident.

3022. How many persons were injured in that accident?—There were 23 patients treated. One was brought in dead. Seven were admitted and two died the same evening.

3023. How were they brought in?—I was not actually there to receive them, but from what evidence I could gather they were brought in in various kinds of carts, and all sorts of improvised vehicles.

By Sir William Collins.

3024. None on an ambulance?—Yes, I think there may have been one or two, but not more than that.

By the Chairman.

3025. On a police ambulance?—Yes, a hand ambulance.

3026. I suppose the hand ambulance is what is called a litter in this return?—Yes.

3027. Confining your attention for one moment to the cases which are brought in on a litter, what do you say about the condition in which you receive those cases?—The principal condition is that a great number of them are suffering from shock, owing to the time which is taken to bring them in, and I will give you a very good illustration of that in the case of a police constable who was out training in the North of London, who slipped somehow and had a compound Potts' fracture. He was on some path and eventually he managed to get somebody to go to the police station to inform his comrades. From the time of the accident till the police ambulance got to him was an hour and a half.

3028. Before the ambulance reached him?—Before the ambulance reached him.

3029. Do you know the distance at all?—I do not. It must have been a little way out in the country.

3030. Where had the accident happened?—It was up near Whetstone, up in the north of Highgate.

3031. Do you know about what distance it would be from the hospital?—Quite four miles. They carried him across on to the road, and the only thing they could do then was to get a cab and put this police ambulance on the top of the cab and bring him in that way, and the whole time from when they first brought the ambulance there till the time he arrived in hospital was an hour and three-quarters.

3032. That is to say the ambulance was an hour and a half coming and an hour and three-quarters bringing him?—Yes.

By Sir William Collins.

3033. They put the stretcher on the top of a four-wheeler?—Yes.

By the Chairman.

3034. That was better than being inside, I suppose; that is all there is to be said for it?—Yes, because his foot was very badly injured.

3035. Do you know the character of the district—whether there was no help near?—Yes, I talked to him and he said that several people he shouted to to come did not quite recognise him and took him for a tramp, until he could persuade somebody that he was really hurt.

3036. What was the result?—He got perfectly well.

3037. Was the case very much prejudiced?—I think he was suffering very much from shock when he came in. That is where it is very difficult about anaesthetics in some of these cases.

By Sir William Collins.

3038. Had there been much hæmorrhage?—No, not very much. Of course sepsis was the worst thing to fear.

By the Chairman.

3039. That is a case of a bad accident in a remote district far from a hospital?—Yes. I think if they had had some means of getting him in quicker when they had once brought him to the cab, it would have saved a lot.

3040. The hour and three-quarters at all events might have been shortened?—Yes. In many cases, although I am not there to see it, the police who have wheeled them in come in perspiring, and I generally ask them how far they have been, and they have said three or four miles.

3041. Can you give us any rough indication of the numbers of that sort of case,—so as to indicate the greatness of the need of better accommodation?—No. In many cases they are brought in from these long distances, and we have only the observation wards to put them in, because our hospital is so full, and we have to send them to the infirmary (which is quite near): so that often these accidents, especially fractures for which ordinary lying in bed will do, are sent to the infirmary. All three of the infirmaries are quite near.

By Sir William Collins.

3042. After applying to the hospital they are sent on to the infirmary?—Yes, they are, of course, attended to first.

By the Chairman.

3043. Does that frequently happen?—Yes, when we are full; sometimes there are such a lot of cases that we cannot take them in. We could do very well with another 50 beds quite easily, and keep them quite full.

3044. In your case would it be an advantage if there were some system of communication, when accidents happen, to know whether you could accommodate them or not?—Yes, a very great advantage.

3045. Because then they would be taken direct to the infirmary?—Yes.

3046. Would that save time?—It would save time because it is on the direct route, especially in coming from the north of us.

3047. Then in many cases they have to come to the hospital to begin with?—Yes. Of course if there is any chance of suffering much shock we always keep them in somewhere, if only on a couch.

3048. You would not keep them permanently?—No, we should not keep them permanently; we should inform the infirmary that there were such and such patients there, and in some cases where they are rather better off they prefer to be sent home where it is an ordinary fracture, and if they have a nice home they can lie up quite easily.

3049. Is there anything else that you want to call our attention to?—I have noticed in the evidence the question about how the police were instructed in First Aid. It is very difficult indeed in all cases, I think, for them to tell whether an accident is serious or not. I have here a note of the case of a child on October 23rd, who was knocked down by a cyclist on Highgate Hill. That child, from what I could gather from the parents, if it had been taken to the hospital would undoubtedly have been detained; although it did not seem ill there were serious signs which, after asking, would give one the clue to that. The accident happened at 5 o'clock at night and the child was brought in the next morning at 9.45 unconscious, and after an operation it was found that there was a fracture of the skull with hæmorrhage. The operation, unfortunately, did not relieve it very much, but if that child had been brought in earlier, before it got to such a bad state, I think its life might have been saved.

By Sir William Collins.

3050. Was it meningeal hæmorrhage?—Yes.

By the Chairman.

3051. Do you know the circumstances of that case at all. How was it that the child was not brought in at once?—I had to go to the inquest, and it seems that the policeman asked the mother whether she wanted to see the doctor or go to the hospital and she said "No."

3052. Did the policeman take it home?—I do not think so; the parents did. But I think in those cases it should be necessary, almost compulsory, to see someone, especially

Mr. A. Carnarvon Brown.

in those accidents about the head, because it is so difficult without expert evidence, so to speak, to find out the injury.

3053. Have you any other case you wish to mention?—Before the date of these returns there were two men brought in in a cab, one of whom proved to be dead when brought in, and the other man was conscious, but he had a broken spine. They had tumbled down in a public hall. I forget which hall it is, one of the Holloway halls. That was not a police case, I know, but why I put that in is because of the time they wasted in sending for a doctor. I think in a lot of these cases they go from one doctor to another; they do not find him in and then they bring the case to hospital, whereas if they brought it straight to the hospital without any delay I think it would make a great deal of difference.

3054. Your experience then is that there are a great number of these cases where it does not occur to the friends to take the speediest and most available methods of getting to the hospital?—Yes. I think the police are, so to speak, in that way at fault, because they have to run round and get a doctor somewhere, and they do not find him in and go to somebody else. It is all very well when there is a doctor just opposite, but in the North of London that is not always the case.

3055. Just let us see what that comes to. Your experience seems to lead you to the conclusion that the first thing that ought to be done, whether by a policeman or anybody else, is to get the patient to the hospital?—Yes.

3056. Not to wait about getting a doctor?—No, to get a proper conveyance.

3057. And get them to the hospital in the best way?—Yes.

3058. Have many cases been brought to your notice where, apart from the question of delay, the patient has been brought to hospital in a state that has been prejudiced by improper treatment on the part of the police?—Not by improper treatment on the part of the police. From all the cases I have seen I think they have treated them as well with First Aid as they could possibly do, but I think it is more the waste of time that is the trouble.

3059. You lay stress from your experience, owing to the position of your hospital and so on, upon the great importance of saving time?—Yes, and I do not think it is necessary to call in a doctor.

3060. You deal principally with cases coming from the outskirts of London?—Yes.

3061. Therefore, I suppose, you attach very great importance to better provision for rapid transit?—Yes, quicker service and getting some conveyance—not bringing them in cabs and barrows and such things as they do.

3062. Is there anything else you wish to say?—There is one other point that I should like to mention, and that is about the removal of patients to hospital in acute illness. We get a great number of those, such things as appendix abscess, and perforated gastric ulcer. In those cases there are no means of getting the very poor patients in. If they can afford it (it is sometimes doubtful, whether they can or not) you can get an ambulance, but if you get a very poor patient, who is desperately ill, there is no means of getting that patient to the hospital except by cab or some unsuitable conveyance.

3063. Are you speaking of medical cases as well as surgical cases?—Yes. We have attached to the Great Northern Central Hospital a horse ambulance which was.

I think, given by the Ladies' Association. But this ambulance is not very much good because the people have to pay so much, I forget just how much it is, whether it is 4s. or 5s., which it is impossible for them always to pay.

3064. And they have to pay it beforehand?—Yes, beforehand. And that ambulance will never go out at night. They cannot get it out at night.

3065. Where is it kept?—It is kept close to the hospital, but the horse is kept some distance away and there is no porter to go for it. So it is not of much use. If there was some ambulance always ready it would be very useful.

3066. It is no use for poor people?—No, not at all.

3067. Is there anything else you wish to say?—No.

3068. You say in your proof that a doctor at the place of accident is not necessary?—Yes.

3069. You think it a waste of time?—Yes.

3070. At all events, if I understand you rightly, you think that the policeman or bystanders, or whoever it may be, would not be able to discriminate to say whether a doctor was necessary or was not?—Yes.

3071. Have you any opinion about the advantage of a motor or horse ambulance?—I think in our district it would be very much better, for the speed. The roads to a certain extent are wider, and I think it would get along very quickly. I am near the City now, and I happened to see the motor ambulance the other day and the speed with which it got through the traffic. It was very crowded, but the police made way quite easily, and there was no difficulty in getting through, and the time taken from picking up the patient to getting him in was certainly very quick indeed.

3072. You think that in case of large accidents other districts ought to be drawn upon for ambulances?—Yes, in a case like the Highgate accident you could have more ambulances brought from other districts up there.

3073. That involves a good system of signalling?—Yes.

By Sir William Collins.

3074. Is the Great Northern Central Hospital situated in Islington?—Just to the north of it; it is in the Holloway Road, just above the "Nag's Head."

3075. It is in Islington is it not?—I think it is.

3076. Islington is one of the most populous parts of London, is it not?—Yes.

3077. And do you get many cases from Islington itself?—Yes, we get a great many. They principally, of course, would be illnesses, not so many of them accidents.

3078. What is the nearest hospital to you, going in towards London?—The North West London.

3079. That is now, I think, not open for in-patients?—No, it is not. The next one is the London Temperance Hospital, and in the other direction the Metropolitan would be the nearest.

3080. So that a very large area of North London is provided for by the Great Northern Central Hospital?—Yes.

By the Chairman.

3081. What is the number of beds?—About 170.

3082. Is there anything more you wish to add?—No, thank you.

TWELFTH DAY.

Friday, 20th December, 1907.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Honourable The EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. HENRY MORRIS, P.R.C.S., called in and examined.

By the Chairman.

3083. You are President of the Royal College of Surgeons of England?—Yes.

3084. And you have furnished us with a statement of the evidence which you propose to give?—I have.

3085. That document, I understand, has been submitted to the Council of the Royal College, and it expresses generally their views as well as your own?—That is so. A copy of this statement was issued to each member of the Council a week before the meeting of the Council on the 14th of November, and at that meeting they passed the following resolution: "That the Council having considered the *précis* of evidence proposed to be submitted by the President to the Committee on the London Ambulance Service express general approval of the suggestions contained therein."

3086. We may take the portion of this statement, down to nearly the end of page 4, as a statement of the facts which we may put upon our notes as it stands?—If you please. May I as a sort of preface tell you what steps I have taken to prepare myself for compiling this *précis* and also for giving evidence here?

3087. Certainly?—In the first place, like other surgeons, I have been for a long time—35 years—on the active staff of a large Metropolitan general hospital. I have inspected the ambulances at New Scotland Yard, the Bischoffsheim Ambulances and the ambulance of the Guardians of Holborn. I have been to four out of the six stations of the Metropolitan Asylums Board, and with Mr. Mann, the Clerk, to three of them. I have been to the St. John of Jerusalem Ambulance Depot at St. John's Gate, and also to the station at the west door of St. Paul's Cathedral. I have spent an hour and a half or more with the St. John Ambulance at Old Scotland Yard on Lord Mayor's Day, when I saw the working of it. I had a special demonstration given to me by the courtesy of the Commissioner of City Police, Captain Nott-Bower, of the City of London motor ambulance, and I have also witnessed a street accident and the removal of the injured person on one of the wheeled litters of the Metropolitan Police force, and have seen what the constable had in the way of splints and what he could do with them.

3088. You saw an actual case?—An actual case. Then I have seen the police recruits at First Aid drill at Scotland Yard. I have also details of 45 days in the out-patients' department of the Middlesex Hospital, taken expressly for my purpose here to-day. I have obtained information direct from the London County Council office and Mr. Gomme, the Clerk; from the Metropolitan Asylums Board and Mr. Mann, the Clerk; and from the St. John Ambulance Department, through Sir Herbert Perrott, and Mr. Morgan, the chief of the Ambulance Department. I have also had conversations with Captain Nott-Bower, the Commissioner of City Police; with Sir Edward Henry, the Commissioner of Metropolitan Police; the deputy chairman of the London County Council; and with Mr. Bischoffsheim, from whom I have received a letter, which I will read if you wish me to do so; as well as numerous interviews and conversations with Mr. Harrison, Chairman of the Metropolitan Street Ambulance Association.

3089. Will you read Mr. Bischoffsheim's letter?—I sent a copy of my *précis* to Mrs. Bischoffsheim, whom I know, and she asked me to go and see them, which I did, and I had a long conversation with both Mr. and Mrs.

Bischoffsheim, and subsequently Mrs. Bischoffsheim wrote me this letter. The first part of the letter refers to a book and a pamphlet which I have here. I should say that this pamphlet gives a description of the ambulance system in Paris.

3090. In substance it is the same, I think, as you have given us in your statement?—Yes. I have also a number of official forms and papers here which you might like to look at. The pamphlet gives a picture of the various ambulance stations, and ambulance carriage, and the male and female ambulance attendants in uniforms (*handing in the same*). That is what Mrs. Bischoffsheim refers to: "We have glanced through them" (that is the book and the pamphlet) "with great interest and found the latter particularly instructive. Mr. Bischoffsheim wishes me to thank you for your visit and to ask you, should the opportunity arise, to tell the Departmental Committee when you come before it that he approves of all your views with regard to the better organisation and further development of the Metropolitan street ambulances. To assist your scheme he is ready to put his own ambulances at the disposal of whatever board will have the management of the organisation, to increase their number, change the locality of their stations, or do away with them altogether as you may advise." I think that is a very important communication from one who originated and maintains so many wheeled litters for use in the London streets.

STATEMENT AS TO THE PRESENT AMBULANCE SERVICES.

The present ambulance service of London consists of three sections:—

- (1) That for infectious diseases;
- (2) That for non-infectious diseases and for injuries other than those occurring in the public thoroughfares; and
- (3) That for accidents and sudden illnesses occurring in the streets.

I.—AMBULANCES AVAILABLE FOR INFECTIOUS CASES.

Prior to 1879 the duty of removing persons suffering from infectious diseases rested with the several boards of guardians. The methods adopted by these bodies differed in important details, and all sorts of public and private conveyances were used for the purpose. By an Act of Parliament passed in 1879 the Metropolitan Asylums Board were empowered to undertake the removal of patients *from their homes to the Board's Hospitals*, and the Board have since then done this in ambulances of their own. Since the passing of the Poor Law Act of 1889 the Asylums Board have had authority to allow the use of their ambulances for the conveyance of persons suffering from any dangerous infectious disorder *to or from places other than the hospitals provided by the Board*. For such use the Board may make a charge. This charge is usually 5s. for each single journey within the Metropolitan area, with an addition of 1s. a mile for each mile beyond such area. By the Public Health Act of 1891 the use of public conveyances for the transport of persons suffering from any of the infectious diseases mentioned in the Act was made unlawful. The Metropolitan Asylums Board

is now the only authority for London for infectious diseases ambulance service, and for this service they have numerous horse and some few motor ambulances.

The London Fever Hospital has two horse-ambulance carriages of their own; but their use is limited to transporting patients from their homes to the Fever Hospital, and a charge is made of 5s. for the first mile and 1s. a mile after. Besides the driver, a male attendant not trained in ambulance work is always sent for carrying purposes, and a female trained nurse also goes, if required or desired.

II.—AMBULANCES AVAILABLE FOR NON-INFECTIOUS MEDICAL, SURGICAL AND MENTAL CASES OTHER THAN ACCIDENTS AND SUDDEN ILLNESSES OCCURRING IN THE STREETS.

(a) The St John Ambulance Association's horse ambulances and wheeled litters.

(b) The horse ambulances of private proprietors and of railway companies.

The ordinary charges made for the hire of these ("a" and "b") horse ambulances are somewhat high, and therefore prohibitory for the poor; but the invalid transport carriages of the St. John Ambulance Association are not refused for poor cases when specially asked for. The horse ambulance carriages of this association are always available for service day and night.

(c) The ambulances of the various boards of guardians.

These are horse ambulances and are used for the transport of pauper patients to or from the parish infirmaries or poor-houses and hospitals; from their own houses (provided they live within the parish district) to the parish infirmary, or workhouse, or to a hospital; and from the parish infirmary or poor-house of the board owning the ambulance to some other infirmary or workhouse. These ambulances are also available, but are seldom used for other than the poor-law work; and if so used, a charge of 5s. is made for a single journey within a two-mile radius, and slightly higher charges for longer distances.

(d) The Metropolitan Asylums Board use both horse and motor ambulances for conveying medical, surgical and mental cases from the patients' homes to hospital or elsewhere.

Application can be made by any authority or person within the metropolis for the use of these ambulances, and they are sent out for such cases at the charge of 7s. 6d. for each single journey within the metropolitan area, and an additional charge of 1s. 6d. per mile beyond that area.

The ambulances used for non-infectious cases are quite distinct, and are painted differently (blue) from those used for infectious cases (painted green). The sanction of the Local Government Board for the use of ambulances for non-infectious cases has not, however, been obtained. They are run at a profit, but are not as yet legalised.

(e) Ambulances belonging to some of the metropolitan hospitals are used for conveying sick persons to and from their own hospitals. A small charge for horse hire is, I believe, usually made for the use of these ambulances.

III.—AMBULANCES FOR CASES OF ACCIDENT OR SUDDEN ILLNESS HAPPENING IN THE STREETS.

Before 1889 an ambulance service for street accidents and cases of sudden illness in the streets can hardly be said to have existed. In 1890, through the munificence of Mr. H. L. Bischoffsheim, a number of wheeled litters were placed, and have been since maintained by that public benefactor, at various stations throughout London; and since that year the number of litters of the Metropolitan Police have been greatly, and still are being, increased. The improvement in the method of dealing with street accidents and illnesses has therefore been very considerable during the last 17 years; but recent inventions have rendered still further and greater improvements possible and desirable.

(a) The Ambulances of the Metropolitan Police:—

1. Wheel litters.
2. Hand stretchers.
3. Three obsolete and now practically useless horse ambulances.

Neither of these ambulances is now, I understand, ever in use.

(b) The Ambulances of the City Police:—

1. Wheel litters.
2. Hand stretchers.

These litters and stretchers are doubtless destined to be soon replaced within the City by motor ambulances.

3. One (and a second in course of preparation) motor ambulance.

(c) The Ambulances supplied and maintained by Mr. Bischoffsheim.

These are wheel litters much like those of the police.

(d) The Ambulances of the Order of the Hospital of St. John of Jerusalem.

The horse ambulances of the St. John Ambulance Association are not ordinarily available, at any rate during the day, for street accidents, as they are usually in the daytime, and often at night also, in use for invalid transport service.

1. Wheel litters and one or more horse ambulances manned by volunteers belonging to the ambulance brigades of this Society are placed in the streets of the metropolis on special occasions.

2. There are three fixed stations for rendering First Aid, where a wheel litter and a hand stretcher are kept and where a paid attendant is stationed during the daytime.

3. Wheel litters and hand stretchers can be obtained in emergencies by the police or other persons on application at St. John's Gate, Clerkenwell, or at the small district stations of the St. John Ambulance Association. In most cases a volunteer of the Ambulance Brigade would accompany the litter or the stretcher.

(e) The (horse) ambulances of the Metropolitan Asylums Board have since 1905 been hired out to the police, and to other persons for street accidents and illnesses occurring in the streets, at a charge of 7s. 6d. for each single journey within the metropolitan area.

(f) The Ambulances belonging to the railway companies, the dock companies, Boards of Guardians and private business firms and companies occasionally, but very rarely, convey street accidents and cases of sudden illness in the streets to the hospital or elsewhere.

(g) The Volunteer Medical Staff Corps is available and works with the police on special occasions such as Lord Mayor's Day and other occasions of great processions.

IV.—AMBULANCE ATTENDANTS.

The arrangements for providing First Aid assistance, and ambulance attendance to accompany the ambulances, are as follows:—

(a) In the case of the wheel litters and hand stretchers of the City and Metropolitan Police, the constable on the spot renders the First Aid, sees to the calling of the nearest ambulance, and accompanies the patient to the hospital. Of course, for this reason the constable leaves his beat and is often, necessarily, away from it for a considerable time.

(b) The Electric Motor Ambulance of the City police force is always accompanied by a City policeman thoroughly trained in ambulance work. He takes charge of the patient as soon as he arrives on the spot and accompanies him to the hospital, leaving the constable to resume his duties on his beat.

(c) In the case of the Bischoffsheim Ambulances the nearest constable is the "living agent" who most frequently renders First Aid, sends for or fetches the wheel litter, and conveys the patient to the hospital. But there is no attendant in charge of the ambulance at its little station. Anyone other than the constable can remove the ambulance, place the patient on it, and convey him to the hospital. Of course, if the agent is a constable he has to absent himself from his beat just as when using the police ambulance. The same remark applies if the constable borrows a litter from a neighbouring station of the St. John Ambulance Association.

Mr. Henry Morris.

(d) The Metropolitan Asylums Board, though they send a trained nurse with the ambulances for the infectious cases, usually send no one but the driver with the ambulances for the non-infectious cases and street accidents; so that, as regards street accidents and removing non-infectious cases, they are mere carriers, and the attendance during transport has to be provided otherwise than by the Asylums Board, if provided at all.

3091. We may now go on to what you say as to the defects of the existing street ambulance service. The first that you mention is that "it is not sufficiently under the direction, control and co-ordinating influence of a central authority."—I do not think it is.

3092. Will you develop that a little further, and tell us what your conception would be of a central authority and its functions?—There are, of course, various suggestions which have been made. There is the suggestion that the London County Council should have the control (and the matter went some distance with the County Council), and there was the idea in the minds of some also to connect the ambulance service up with the Fire Brigade. Then there is the suggestion of the Metropolitan Asylums Board having power to connect it up with the system of ambulances that they have already in existence for the removal of infectious, and to a certain extent, though that is not, I believe, authorised, of non-infectious cases. And then, lastly, there is the suggestion of putting the street ambulance work entirely under the police.

3093. That is to say, the central authority would be the authority which owns the rapid ambulances, whether horse or motor ambulances? I have asked the question of a good many witnesses, who have spoken of a central authority?—I am quite prepared to give my own opinion about that.

3094. That is what I want to have?—First of all, I thought you wanted me to justify the statement that the existing street ambulance service is not sufficiently under the direction, control and co-ordinating influence of a central authority. We have the St. John ambulances at work; the police ambulances at work; and the Bischoffsheim ambulances at work; but they are all under different and separate bodies. I would have all ambulances for street purposes brought under one control, and I have no hesitation in saying that my selection of the controlling authority, if I had to make it, would be the police, and that it should be a separate section of the police, just as the detective department is a separate section; because I would not have it mixed up, as it is in Boston, for instance, so that there could be any possibility of the man in the street saying that people who met with accidents were carried off to hospital in the "Black Maria." I think it is very desirable not to have any possible objection of that kind raised.

3095. Your conception, then, is having a separate branch of the police; that, just as you have the detective branch you would have what you would call the ambulance branch?—Yes, I should have it a separate branch, and known as "the street ambulance department."

3096. Do you mind just following out a little the function of the ambulance branch? First of all, I take it that the men would be specially trained?—The policeman is, of course, more or less trained in First Aid, but I would have special men for this department. There would be a driver, of course, or chauffeur, if it were a motor ambulance, but there should be a special ambulance attendant, a policeman very efficient in First Aid, and thus the ambulance service would all be done by the police, and not by a medical man.

3097. When an accident happens the constable on the spot is not, of course, one of these special men?—That is so, but he has the ordinary First Aid training.

3098. His duty, I suppose, would be to summon the ambulance and look after the patient pending its arrival?—His duty would be to wire immediately to the central office.

3099. And to look after the patient?—In the meanwhile.

3100. Then the ambulance comes with a special attendant?—Yes.

3101. And the street police constable is *functus officio* as soon as the ambulance comes?—Yes, he renders, of course, what help he can on the spot.

3102. But he does not go to the hospital?—No: the patient is put into the horse or motor ambulance, and the constable on his beat then gives up charge and resumes his duty on his beat, instead of having to go away from it.

3103. That is clear enough. Then the ambulance also is the property of the police?—Yes, it is the property of the police: under the police service altogether.

3104. Is it your conception that use of the police ambulances would be confined entirely to street accidents, or to illnesses occurring in the streets?—Almost entirely, except that it should go when it is wanted if there was any accident at a factory, for instance, or at a big store like Harrod's, or in cases of fire. My impression is that there are not sufficient ambulances in connection actually with the Fire Brigade. I think there are only one or two at most.

3105. Would these police ambulances go into the docks?—No; I think that the docks would have to be separate.

3106. Or to railways?—Yes, if there is a railway smash within the district.

3107. I mean to an accident at a railway station?—Certainly, I would let them go there. I would let them go anywhere to an accident in the London district if an ambulance was needed.

3108. It would very enormously increase the work which these ambulances would have to do if you took in accidents in factories, at railway stations, and so on?—It would increase it.

3109. Enormously?—I should not think enormously. I should not think that the number of accidents that happen in railway stations would be so large as that.

3110. That is ascertainable. That, I may say, is the conception of the Boston police: they undertake to deal with emergency cases, and emergencies with them include all accidents?—Yes.

3111. All I want to say is that it would make it a very big thing indeed?—That I am not prepared to say.

3112. You have not gone into that?—Yes, I have considered it, but I have not got the figures.

3113. How would it be worked? The police might be summoned by, say, the owner of a factory, or a railway authority, saying, "We have a bad accident here, and we want an ambulance to take the man to a hospital"?—Yes, I think that should be so. The railway people have ambulances of their own, but if they have not got, say at a factory, the facilities and a vehicle for transporting people with accidents, surely they ought to send for the police ambulance.

3114. Still, if you provide these ambulances at the expense of the rates, the private ambulances would probably go out altogether?—But I would meet that easily by making a charge for them when sent for by a railway company or a business firm, and not for street accidents.

3115. Then the next defect which you point out is that "the patients are not conveyed to the hospital or their homes as safely or as expeditiously as they might be and ought to be. This is especially the case as regards expedition if the first hospital to which a patient is taken happens to be quite full"?—Yes.

3116. Is that often the case? That is a matter on which the evidence is not altogether unanimous?—Yes, it does happen.

May I now refer to the particulars which I have had taken out during 45 days? I have them all here in detail. I will hand in the book to you to keep, if you like. Every case is here taken out as far as possible. I will just read the summary of it. First of all, I will read a letter from one of the casualty surgical officers at the Middlesex Hospital, who is a very experienced man, Mr. Somerville Hastings. He says "I have placed a notebook in the surgery and asked the house surgeons of the Middlesex Hospital to fill in the required particulars of all accident cases brought to the hospital. At the end of the month I will let you know the result." This book was started on the 2nd of November and ends on the 17th of December. He says: "I have also discussed the matter with the present and several past house surgeons, and they agree with me in the following conclusions: Accidents brought to the hospital by the general public arrive for the most part in cabs, or more rarely in carts. Probably about three-fourths of the street accidents are brought by police, and of these a little more than half arrive in cabs." That, you see, is a statement that Mr. Hastings makes from general recollection and impression.

3117. We have already certain figures on those points?—That statement of Mr. Hastings is very strongly corroborated by these details of the 45 days. Then he says: "The police say that if the patient can afford it they usually call a cab to avoid delay unless the lower extremity is injured." The people do that themselves—they do not like waiting for a wheeled litter. "We do not remember any serious injury to the lower extremity ever arriving in a cab with police. There is hardly ever any attempt at First Aid treatment, but the patients seem to be moved carefully by the police." The impression of Mr. Hastings and the

house surgeons he conferred with was that they did not find that the police had used any First Aid, although they were careful and considerate men and moved the injured carefully. I think that is rather important, because my own impression, from what I saw on the occasion to which I referred just now, is that the ordinary constable is not very good at rendering First Aid. I come now to the details of those 45 days. The same gentleman, Mr. Somerville Hastings, writes: "I enclose the accident book, which, I think, has been filled up fairly completely; 53 cases are recorded in 45 days. Of these I have excluded 4 marked by a cross as not truly street accidents; so that makes 49. Of these remaining 49, 36, that is 74 per cent., were brought by the police; 13, that is 26 per cent., came alone or were brought by friends. Of those brought by the police 13, that is 36 per cent., were brought in ambulances; 9, or 25 per cent., in cabs; 8, or 22 per cent., walked; 2, or 6 per cent., were carried by the police; 3, or 8 per cent., were brought by motor car; and in one case it is not recorded by what means the patient arrived.

3118. When you say three were brought by motor car, was that a motor ambulance?—No, that was not a motor ambulance.

3119. Probably by the motor car that caused the accident?—Yes, probably. "Excluding one case which may not have been a street accident, in which the patient came to hospital 36 hours after, the average time, since the accident, of arrival was 18 minutes." I rather lay emphasis upon that because of this following statement: "Most of the accidents seem to have occurred within a mile of the hospital." I would submit that, in a busy part of the London streets like that round about the Middlesex Hospital, an accident occurring within a mile of the hospital ought to have been in hospital in less than 18 minutes.

3120. That is, 18 minutes from the time of the accident?—Yes. I may say that I saw the motor ambulance that is used in the City of London, at a special demonstration; it was not a real accident, but we went through the whole process—a call was received, a communication was made to the ambulance station, and so on, and in two and a-half minutes I think it was—I did not make a note—the ambulance arrived from its station at St. Bartholomew's Hospital at Guildhall Place. I suggested a fractured thigh, and a man was laid on the ground and treated as for a fractured thigh, and he was put on the ambulance and was back in St. Bartholomew's Hospital in less than nine minutes.

3121. You attach very great importance to speed?—I attach very great importance to the speed with which the ambulance arrives at the spot where the injured person is. I do not attach so much importance to the speed with which the ambulance returns. There are conditions under which it is desirable that the carriage should go slowly after the patient is put into it, but, speaking generally, the sooner the patient gets to the place where he is going to be definitely treated the better, of course.

3122. Let us stop a moment at the point at which the vehicle, the ambulance of whatever kind it is, picks up the patient, and his treatment up to that moment. You say in your *précis* "the ordinary constable is not sufficiently trained or equipped to render all the aid which is often required and which might, by other ambulances than those in ordinary use at present, be very quickly brought to the spot where the illness or the accident has occurred"?—No, the average constable is not sufficiently well skilled in First Aid knowledge to do the ambulance work; but I should not like to be misunderstood about that, because I am perfectly well aware that a good many constables, and an increasing number, are getting what is called the medal. I daresay you know what they mean by the medal. Those men are not only trained in the first place as recruits, but they go through subsequent periods of training and pass an examination which justifies their getting this medal. Many of those men would certainly be quite suitable for ambulance attendants.

3123. But still, the first person with whom you have to deal is the ordinary constable?—Yes, and he, in my opinion, is not up to much at First Aid.

3124. Then comes the question, a very important one for us to consider, how far that state of things is capable of improvement?—I think very considerably.

3125. I do not know whether you have read Mr. Bryant's evidence?—Yes, I have.

3126. Do you agree with it?—I have read it, but I do not know that I have it all at my fingers' ends; but I think I remember that he was not of opinion that it is advisable to bring, as somebody has put it, the hospital to the patient.

3127. Certainly he was not of that opinion; he was rather of the opposite opinion?—I agree. I have the greatest respect for Mr. Bryant's opinion, but I would put it in this way, that, in cases both of accident and of sudden illness, what is done for the persons at the very first, at the outset, may make all the difference as to what is going to happen to them ultimately, and it is most desirable, therefore, that you should not have a fusser or a busybody, but that you should have an intelligent person who knows what to do or not to do and the right thing which is required at the time.

3128. I do not think that is at all inconsistent with Mr. Bryant's evidence, if I recollect aright. What I think Mr. Bryant emphasised very strongly was that there were certain broad classifications in which injuries might be grouped, with reference principally to the part of the body that was injured, the head or the chest, or internal injury, or fracture of the arm or of the lower limbs and so on, and that certain broad rules for the guidance of the constables might be laid down, depending mainly on the part of the body that was apparently injured, and especially whether there was reason to suspect injury to the head?—I should go further than that. I think you want not only very broad general principles, but some specialised knowledge. For instance, it may be obvious to the man in the street that a boy or a young person has a fractured thigh, but I think it is very desirable that the ambulance attendant should have enough special knowledge to know what to do with it, when to put a splint on and how to put it on. I think that the ambulance attendant ought to have more than a superficial general knowledge, that he ought to have some special knowledge of how to apply a suitable splint or tourniquet or other remedy in an urgent and important case.

3129. That raises the question, does it not, whether the present practice of sending the constable who happens to be on the spot with the ambulance to the hospital is open to objection, and whether some sort of trained ambulance attendant should take charge of the patient instead?—That is what I am aiming at by getting an ambulance attendant to come with the ambulance.

3130. I gather from your *précis* that that is a matter to which you attach very great importance?—I do.

By Sir William Collins.

But is there not a little confusion here? Mr. Bryant was alluding to educating the ordinary constable: Mr. Morris is now speaking of training ambulance attendants.

By the Chairman.

3131. But I am on the point whether the present plan of sending the ordinary constable to the hospital ought to be superseded by some arrangement involving the summoning of an ambulance attendant to the spot?—I would go so far as to say that a knowledgeable ambulance attendant would be far from being a fusser or interferer with serious conditions, but would know best when not to do anything at all—and that very often is the most important thing.

3132. Then, with regard to the qualifications of the attendant who is to go with the ambulance, do you think that the present plan in the City of sending a police constable, who is more highly qualified and has obtained the medal, is sufficient; or do you want any more special knowledge than that?—No. I think a well trained constable is sufficient. I think that selected constables can, by experience and a little extra training, be brought up to be most thoroughly efficient ambulance attendants.

3133. Then you would not agree, I gather, with those witnesses who say that it is desirable to send a qualified medical man in this class of case?—No, I do not agree with that at all, and I think it is not desirable that an attempt should be made to send senior students or young qualified men from hospitals, for several reasons. First of all, from the senior student's point of view, he has got more than he can do now in the time that he has to do it in; he does not need, either, to be giving up time to this kind of thing, as he can get all the knowledge he wants about accidents from the accidents that are brought to hospital. Then another thing is that young medical men naturally vary a great deal as to temperament, and thus in their aptitude for dealing with a crowd, and so on in the street. The police are quite accustomed to that. Another thing is this: it would be a very undesirable thing to have to change frequently the ambulance attendants, as would be the case if you had young medical men, men who could serve only for three, four, five or six

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months and then off. The great thing will be to get men who are thoroughly up to their business, who go on not for months, but for some years. We know what the inconvenience is in hospitals to change a house surgeon; he is on with you, say, for six months, and then passes off and another man who is quite new to you comes on. There are great inconveniences and drawbacks attending it, and I think that such should not be introduced into a service of ambulances.

3134. Then just to sum up, I may take it that on this part of the question your idea, reverting to what you were saying just now, is that there should be a general organisation and that it ought to be in the hands of the police; that there ought to be a special body of constables highly trained, whose sole work would consist in this particular service?—Yes, highly trained in ambulance work.

3135. And that they should take over the charge of every case from the constable who is on the spot?—Yes.

3136. Do you attach importance to the constable on the spot, who probably has the best information as to the circumstances and nature of the accident, going with the patient to the hospital for that reason?—No, not at all. That information he is easily able to hand over, and I do not think that that side of the question ought to be too much developed with the police. I have seen, for instance, in a street accident in Paris an enormous amount of attention given by the police to taking details about the vehicle which caused the injury and about various other circumstances of the accident, but attention to the patient, the injured person, appeared to come quite as a secondary thing. The constable must of course take the particulars from the point of view of the police side of the case, but from the point of view of the ambulance side of the case the injured person is the figure of importance.

3137. The constable has to make his report?—Yes, certainly.

3138. Then let us go on to the next defect which you mention. You say: "If it were known that a horse or a motor ambulance would be brought, within a few minutes, to the place where the injured person lay, the public would soon learn the wisdom of waiting for the ambulance and would not, in the absence or otherwise of a constable, insist on hustling the injured person into a cab or other unsuitable vehicle. Thus very many injured persons would be saved from having their condition rendered worse by inappropriate and imperilling transport." You attach importance to that?—Yes, I do, very great importance.

3139. Certainly it is the case in America that people expect the ambulance to come, and wait for it, and very seldom attempt to do anything else, so far as I can make out?—There is no doubt about it that a great many people will not get into the wheeled litters. They do not like them, and they object to them from many points of view; and, that being the case, they get, or their friends put them into cabs. I have taken a statement from the porter at the Middlesex Hospital, who gave it to me quite independently—I did not ask him for it—which I should like to read, I took it down directly I got home after my conversation with him: "The porter at the Middlesex Hospital is quite certain he has frequently assisted out of cabs persons insensible, some with fits, some with concussion, some with fractured base of skull, severe chest injuries, and bad fractured arms—occasionally with fractured leg. Some of these concussion and head cases have, he is sure, been brought by the police; many injured are brought in without the police; and he has seen fractured lower limbs in persons who were carried to the hospital, and even carried on the back of a man." That is the statement of an experienced porter at the Middlesex Hospital.

By Sir William Collins.

3140. How long has he been there?—I cannot tell you, but several years.

By the Chairman.

3141. The next defect which you mention seems perhaps rather a question of police organisation: "The temporary absence of a constable from his beat whilst he is going to and fro between the place of accident and the hospital is undesirable, and may be productive of actual harm to others"?—It is only right that I should say in reference to that paragraph, that Mr. Clinton Dent, who perhaps may be giving evidence here, tells me that there are always reserve men for extra duty, one of whom can go and take the place of the constable who leaves his beat with the litter.

3142. That is the answer which would have occurred to myself. That is rather a question of police organisation?—Still, we must bear in mind that it often requires a couple of men to go with the ambulance, if you have a drunken person, for instance, and then there is the liability of the beat being left without a constable for the time.

3143. Then you say: "There is no possibility with the wheel litters or hand stretchers of giving proper attention to the patient *en route* to the hospital in the event of hæmorrhage, deepening shock, faintness, or shifting of bandages, pads or splints owing to the restlessness or violent or unconscious struggling movements of the patient. There is, moreover, the mental distress suffered by many, and especially by women, because of the exposure of the litter to public view, or of the remarks which may be overheard during the transit at a walking pace to the hospital." That is a matter which we have had brought to our attention a good deal?—That is most important. There again I should like to refer to a paragraph in a letter I received from Mr. Dent: "As an example recently a case occurred—and it is by no means unique—where a woman was taken ill in the street and proceeded to have a baby. She could not be moved, and extra constables had to be sent for to keep back the crowd of spectators, who numbered 600. I quite allow that in such a case a horse ambulance might have made an excellent temporary lying-in hospital." I mention that as an individual case within his experience, where a terrible catastrophe might have been very quickly met by a rapidly-moving ambulance.

By Sir William Collins.

3144. That was in London, was it?—He does not say so, but I conclude that it was. It must have been, with 600 people surrounding it, and coming as it did under Mr. Dent's notice officially.

By the Chairman.

3145. Then the next defect, I think, speaks for itself: "The wheel litter and the hand stretcher have the disadvantage of attracting a crowd, and even in this way of impeding progress of transport to a certain degree; whereas the motor or horse ambulance clears the street in advance by the use of a whistle or a gong." I do not know whether you wish to add anything with regard to that?—I do not know that I do. I have rather amplified it, I think, in my evidence with regard to Paris.

3146. Then in the next part of your statement you sum up the various requisites for a complete street ambulance service?—For satisfactorily directing, controlling, and co-ordinating the Street Ambulance Service three things are requisite: (a) A central authority; (b) ample telephonic communication or other form of quick signalling; and (c) a sufficient supply of horse or motor ambulances so stationed that one or more are always and immediately available. As to who should constitute the central authority, the following points seem worthy of notice: (1) Whilst the London County Council have a complete system of signalling, and have the fire brigade stations (with which it might be thought desirable, for economic and other reasons, to associate the street ambulance service) under their control, and whilst they provide evening classes for instruction in "First Aid," yet they have no ambulances, no ambulance stations, no ambulance staff, and, so far as I know, have had no experience whatever in actual street ambulance work. (2) Whilst the Metropolitan Asylums Board have a complete signalling system, an unlimited supply of suitable ambulances (horse and motor), a large ambulance staff, and eight very extensive ambulance stations (six only in use) so situated that every part of London is within easy reach of one or other of them—a circle having a two-miles radius drawn round each ambulance station practically covering the whole area of London—yet they have no staff of attendants for their non-infectious service ambulances. Both the London County Council and the Metropolitan Asylums Board would have to work in conjunction with the police, by whom the "First Aid" assistance is, in most cases of street accidents and illness, rendered. Neither of these bodies would, it is to be presumed, extend their control beyond the administrative area of the County of London. (3) Whilst the police constitute the ubiquitous "living agents" whereby "First Aid" is likely to be rendered, and have, or could readily have, a complete signalling system at their disposal, and possess, moreover, great experience in ambulance service, yet they have at the present moment no horse or motor ambulances, and but few, if any, stations for housing such ambulances.

3147. With regard to the Metropolitan Asylums Board, I should like to ask a question or two. You say that they

have "a complete signalling system, an unlimited supply of suitable ambulances, horse and motor, a large ambulance staff, and eight very extensive ambulance stations (six only in use), so situated that every part of London is within easy reach of one or other of them—a circle having a two-mile radius drawn round each ambulance station practically covering the whole area of London—yet they have no staff of attendants for their non-infectious service ambulances." I rather gather from that that you think the Metropolitan Asylums Board might supply the need so far as ambulances are concerned, if the defect of not having proper attendants accompanying the ambulances was remedied?—No doubt they might, but I do not think that it would be desirable from a public sentiment point of view to have the street ambulance work done by the same body that is dealing with infectious cases.

3148. As a matter of fact they do now, do they not, keep their ambulances separate?—Yes; but they have not any authority for dealing with non-infectious cases, although they are doing it.

3149. Perhaps it is a bold assumption to make, but supposing they could get the requisite authority—it would require legislation, no doubt—they have the ambulances, and they have at present a system of different-coloured ambulances and different-liveried servants, attendants, and so on, for infectious cases and non-infectious cases?—Yes, they have.

3150. Would it not be possible, in your opinion, to carry that further?—As I said before, I think it is desirable to yield to public sentiment to a certain extent, and I think that there is a strong public sentiment against the chance of using an ambulance for an accident that is used for infectious cases like small-pox, just as I think public sentiment in this country would be against using the "Black Maria," so to speak, for ambulance purposes, as in Boston they use the patrol waggons, which are fitted up as ambulance carriages. There is no doubt whatever that the Ambulance service of the Metropolitan Asylums Board is a most admirable one, and that they could multiply, and are multiplying, their ambulances now down at Mead station; they are making it a large garage and a place for building and so on, and they could multiply these practically so as to have an unlimited number of horse ambulances; but they have a great deal of work to do as it is, and I feel certain that they would have to increase their stations and their staff very largely. I do not attach very much importance to the fact of their not having ambulance attendants for non-infectious cases, which they have not at present. They send female nurses to infectious cases.

3151. The service is merely for the purpose of carrying?—Merely for the purpose of carrying so far as non-infectious and street cases are concerned, but as I say, I do not attach much importance to that, because they would very soon get a corps of very good ambulance attendants out of expolicemen—men who have been trained to a certain extent in First Aid work. But they would have to increase their staff. They would have to get an ambulance corps, and they would have to increase their stables and their accommodation; and more than that, I should suggest to you that they would have absolutely to build stations, because most of the stations of the Metropolitan Asylums Board ambulances are not close within the accident area of London. It is no good having a lot of ambulances down at Stockwell, and down at Brook, and down at Seagrove Road, Fulham, or elsewhere, for accidents occurring within half a mile of Charing Cross; so that they would have to put on new stations, as well as to get a corps of ambulance attendants. Therefore, it comes down to this that really the only economy with the Metropolitan Asylums Board would be in the form of their signalling and their telephonic system. Their clerks could take, perhaps, double as many telephonic messages as they do at present, and therefore in that respect there would very likely be an economy; but the police ought to have every kind of facility with regard to telephoning, and I believe I am right in saying that the police now at this very moment are very rapidly extending their telephonic system, so that in a short time, probably, they will have as complete a telephonic system as they have in Boston; and that being the case, there would be at once removed from the side of advantage in joining up with the Metropolitan Asylums Board any economy that there would otherwise be with regard to telephonic service.

3152. I suppose that you have hardly gone into figures or considered what the cost would be supposing that a police ambulance service were established on the lines that you have indicated?—I have not gone into it at much length, because I know that you have had so much

first-hand information from which to obtain these figures; but I have gone into it, as you will see later, from the point of view of the Paris system, and we know from the returns that you have had with regard to Liverpool that the annual outlay for one ambulance, including driver, horse, rent, telephone, livery, repairs, &c., is about £227 a year. I believe you have had that evidence afforded you. I may add that Dr. Rowe (of Boston, Mass., U.S.A.) states that the first outlay for one ambulance, one horse, one harness, and blankets, &c. (outfit) was 950 dollars; and that the annual repairs and upkeep (including the keeping of one and a half horse for each ambulance, and drivers' wages and livery, &c.) amounted to 1,155 dollars.

3153. Of course that raises the question respecting the expense of this service?—I was referring just now to the Northern Hospital at Liverpool. The expense for that service for one year at that hospital was stated by Colonel Joynson in 1885 to be £227 6s., and he gives the details for drivers' wages and so on. I should like to say further, in this connection, that admirable as is the Liverpool system, which has been so much quoted and reported upon to you, it is, I think unnecessarily complicated; there are so many authorities in it that I think in that respect it would not be desirable to copy it in London. As you are aware, Liverpool possesses a magnificent system very similar to that in New York, but the horse ambulances are provided at the cost of the Corporation, the City police man the service, the ambulances are attended by a young surgeon from a hospital, and they are worked by the fire brigade; so that you have in Liverpool no less than those four bodies mixed up together. This is a criticism of my own that I offer for what it is worth. I do not think that attention has been drawn to it. It seems to me to be too complicated a system for us to attempt to work in London—to have young medical men supplied by a hospital, the ambulance kept at the hospital, the service manned by the police, the cost of it borne by the Corporation, and the system to be worked by means of the telephones of the fire brigade. I think you ought to keep it absolutely separate.

3154. Are not both the fire brigade and the police in Liverpool under the Corporation?—Yes; but still it is mixing up two services.

3155. I do not think that we have had any one who has suggested that. The fire brigade service seems a very separate matter from an ambulance service, whether it is under the Corporation or not. It would be difficult to combine those two occupations?—Yes, I think so; and I think that the London County Council would think so too.

Then as it is not for me to ask the question of the Committee, I should like to suggest that there is a very considerable surplus of the Metropolitan Police account which would probably cover all the extra expense of a complete ambulance service.

3156. It is some years since I had anything to do with the Metropolitan Police account, but it must have very much improved since my day if that is the case?—I would suggest that there is a surplus of £25,000, and that that could be used without raising any increased taxes to meet the increased outlay.

3157. I am afraid that you have not considered the relation between the ordinary Metropolitan Police Fund, from which probably those figures are taken, and that part of it which constitutes the Pension Fund?—I cannot say for certain as to that, but I do not think I am confusing these two Funds.

3158. If you take it as a whole, I do not think that you would find such a surplus?—I have here a letter from a member of the London County Council, which is unofficial, it is true, but in which what I have suggested is actually stated.

3159. Then you go on to say in your *précis*: "The present day facilities for rapid communication by telephone and otherwise render it possible to substitute a very few horse or motor ambulances, placed at considerable distances apart, for a very large number of wheel litters stationed at very short intervals, and yet to bring to any spot a well-equipped and properly-attended ambulance, and to convey therein the injured person to the hospital in about half the time taken by the wheel litters and in a manner safer, more decorous and less uncomfortable in every way." Do you contemplate the motor or horse ambulances entirely superseding the present wheeled litters, or would you have both going on together?—I contemplate their entirely superseding the litters—absolute.y.

3160. Therefore, there would have to be enough horse and motor ambulances for the whole service?—Yes.

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3161. And in connection with that comes the question of the discretion which the ordinary constable should exercise when an accident happens, whether he is to summon a horse or motor ambulance in every case, or whether he is to be allowed to say that a case is one in which it is not necessary?—Granting that every constable should be compelled to learn how to render elementary First Aid, that he should be made to carry a small packet containing an aseptic pad and bandage, and should look after an injured person or one seized with illness in the street until the arrival of an ambulance, still it should not be left to the discretion of every constable to decide whether the injured person should be removed in an ambulance or in another form of vehicle such as a cab, cart or barrow. It should be an instruction to him to endeavour to keep at the scene of the accident or illness any person in a fit, or who is unconscious, or faint, or in a state of shock or semi-shock, or who has suffered any injury to the head, chest or abdomen, or to one of the bones or joints of a lower limb, until the arrival of the ambulance. Of course I would not have them summon it for a little graze on the face or a smashed finger. Even at the present day patients are brought to the hospital sometimes by police constables, though perhaps more often by other persons, in a manner aggravating to the original injury, and even imperilling the recovery and life of the injured, instead of being brought on an ambulance. The police and the public would soon learn to be less hasty in dealing with the injured when once it was known that a quick-moving ambulance with well-trained attendant would be, if summoned, always ready on the spot.

3162. Then you sum up the advantages and benefits of such a system as you suggest?—The advantages and benefits to the patients themselves, as well as to the general public, which have resulted from the centralisation of the arrangements for removing infectious sick persons, are undeniably great. By making the Asylums Board the authority in London for the transport of infectious patients, a most effective way of preventing the spread of infectious diseases was provided; unsuitable means of transport of persons prostrate with illness were abolished; defective construction of ambulance vehicles was corrected; objectionable and dangerous methods of housing ambulance carriages were discontinued; scandals and risks due to improper conduct on the part of friends who were accompanying, or the persons in attendance on, the sick were prevented; and expedition in transit was secured. Equal, if not even more important benefits and advantages would result to persons taken ill or meeting with accidents in the street, from the centralisation of the street ambulance service by means of rapid signalling and by providing quick-moving ambulances and skilled ambulance attendants.

3163. And you are clearly of opinion that such a service would be workable in London?—It is no longer a matter of opinion, but a fact demonstrated and proved by ample experience, that such a service is workable and suitable for small, moderate-sized or very large towns and cities, and whether the hospitals to which the patients are to be taken are near at hand or at a considerable distance from the site of the accident. Such experience has been yielded by Preston, Wigan, Liverpool, New York and numerous other places.

3164. And you finally give your reasons why such a service should be under one authority and what that authority should be?—If I were asked the two questions, first, whether the administration of all three of the existing sections of ambulance service in London should be centred in the same authority; and, secondly, what should be the authority to control the Street Ambulance Service, I should reply as follows:—(1) The Asylums Board should continue to be, as now, the recognised authority for London for the "infectious diseases ambulance service." This service as provided for by the Asylums Board is of a high order of excellence. (2) The Asylums Board, with their excellent and numerous ambulances, their large ambulance staff of workers, and their extensive ambulance stations, should be made the legally authorised body to control the non-infectious ambulance service, *i.e.*, the service for medical, surgical and mental cases, and for accidents other than those occurring in the public thoroughfares. The Asylums Board should thus take on the work at present done by the ambulances belonging to the boards of guardians. (3) The City Police should continue to control, as now, the street ambulance service of the City, and the Metropolitan Police the street ambulance service of the Metropolis other than the City. The ambulances of these forces should be available if summoned, either free or at a fixed rate of charge, for accidents or sudden illness happening in shops or warehouses, &c.,

within their respective areas. (4) For a time, at least it might be well to limit the rapid street ambulance service of the Metropolitan Police to what is spoken of as the accident area—that is, the area within a three to four miles radius of Charing Cross, thus leaving the outlying districts to be served as at present, with the intention of extending the quick service to these districts as experience and need and opportunity indicated and financial considerations justified.

3165. You have kindly furnished us with a print setting out information which you have gathered with regard to the ambulance systems in Paris, Berlin and Boston (U.S.A.)?—Yes. I will put that in.

(*This memorandum is printed in Appendix IX. A document was also put in descriptive of the Ambulance Service of Birmingham, which was obtained for Mr. Morris through the kindness of Mr. William F. Haslam, F.R.C.S., from the Head Constable.*)

3166. May I ask you when your visit to Paris was paid?—I spent three days in Paris in November. On November 16th with the Head Officials and in visiting one of the stations, and on November 18th at two of the other stations. There is one station, namely, that at Rue de Chaligny, that I did not visit at that time, but I have visited it since and have appended the particulars to my memorandum.

3167. I suppose that the objection that is made to the use of the Metropolitan Asylums Board ambulances, that they are also used for infectious diseases, applies to a considerable extent to the Paris system?—Yes, it does; only in Paris you see they have the *ambulances urbaines*, which are only used for non-infectious cases and street accidents, and, as I have explained in my statement, when these particular ambulances were handed over to the municipality in 1895, it was with the understanding that they should never be used for infectious cases. This condition is strictly observed, but there are only three of them, two at the St. Louis station and one at the Falguière station. They are used for non-infectious cases and street accidents only, and they form a separate service, though they are now under the same control as the municipal ambulances are.

3168. Still the others are used also for street accidents?—The others are used for every class of case.

3169. Even for small-pox cases?—Yes, for everything. But they are always disinfected on returning to the ambulance station.

3170. Is not that the case also in Berlin? At all events there is apparently a very complete system of disinfection in Berlin?—The system of disinfection in Berlin is wonderfully complete. For six of the classes of cases (three of which I have particularised, I do not know what the other three are, as it is not stated), the ambulances are sent to the new Virchow Hospital for special disinfecting.

3171. Subject to that, they are used for all cases?—They are sent to the Virchow Hospital, where they undergo a special form of disinfection if they have been used for one of the six classes of cases; but, otherwise, they are disinfected just as the Paris ambulances and our ambulances are here after every time they have been used.

3172. With regard to the American system, the essential element in that system, so far as I gathered from what I saw of it recently, is that it is primarily connected with hospitals. The hospital is the ambulance authority, and there are as many ambulance authorities as there are hospitals, except in Boston, where the police also have ambulances, and there is a sort of division of labour between the hospitals and the police which is not very accurately marked out; but the police take in what they call the emergency cases and the hospitals take the others?—I thought there was a very strong distinction between hospital ambulances and street ambulances in Boston. I have referred to the mixing up of authorities and peoples in the New York ambulance service.

3173. Still, the hospital ambulances are used to a great extent for street accidents also in Boston?—I do not gather that that is so in Boston from the report of the Police Commissioner, Stephen O'Meara.

3174. I visited Boston lately, and I had a long talk with Dr. Rowe, who is at the head of the ambulance arrangements at the Boston City Hospital, and also with the Commissioner of Police?—May I give you another reason why I think there is a fairly well-marked distinction between the two services in Boston? I telegraphed to Dr. Collins Warren, the Professor of Surgery in Harvard University, several weeks ago asking him to send me information about the system there, which I afterwards followed up with a letter and a copy of this *précis*; and

I had a letter from him in reply to my telegram before he received my letter and *précis*, in which he said that he had taken immediate steps to obtain all the information about the police system of ambulances, and the hospital system of ambulances. Since he received this *précis*, which points of course only to street ambulance work, I have heard nothing more about the hospital ambulances, but I received a report from the Chief Commissioner O'Meara of Boston, in which he says: "These runs represent legitimate police work, for except in emergencies the transportation of sick persons from their homes to the hospitals and the reverse is left to the hospital ambulances." Dr. Rowe also, in his article "*How Boston does its Ambulance Work*" says: "In Boston the police ambulances respond to all calls for street accidents or injured persons. The hospitals attend principally to the conveyance of the sick."

3175. Then no doubt that is the general rule, that the ambulances used for emergency cases belong to the police and in other cases to the hospitals; but I asked a good deal about it, because I was anxious to know the facts on this point, and Dr. Rowe told me that there was a good deal of overlapping as there is in Paris; that the police had no hesitation whatever in telephoning for a hospital ambulance if they wanted one, and they always got it. That is probably a strong point in the system, that there is a ready interchange between the police and hospital services?—Yes.

By the Earl of Stamford.

3176. On page 7 of your *précis* there is a suggestion which I should like to have defined a little more closely. "The Asylums Board with their excellent and numerous ambulances, their large ambulance staff of workers, and their extensive ambulance stations should be made the legally authorised body to control the non-infectious ambulance service, i.e., the service for medical, surgical and mental cases and for accidents other than those occurring in the public thoroughfares. The Asylums Board should thus take on the work at present done by the ambulances belonging to the Boards of Guardians." You would extend the sphere of the Metropolitan Asylums Board to taking the whole of the Poor Law work at any rate?—Yes.

3177. And you suggest that their ambulances should be used for accidents other than those occurring in public thoroughfares?—Yes. I thought there again that, supposing there was any great fire or any great accident, they should be allowed to be sent for, perhaps even to assist or supplement the police ambulances, but that they should then make a charge just as they do now. I would not have them used for accidents of that kind, other than for the poor, without their charging for it.

3178. You would only call in those ambulances on special emergencies in such cases as accidents occurring otherwise than in public thoroughfares?—Yes.

By Sir William Collins.

3179. If the plan that you advocate were adopted, you look forward to the entire supersession of hand ambulances, I understand, by rapidly moving ambulances?—Yes. I remember that once when I met Sir Edward Henry at dinner one of his remarks was that a horse or motor ambulance could not go into all the streets in London. I do not know that they find that difficulty in the City of London, but of course one does recognise that there are places like, for instance, some of the courts out of Fleet Street and out of the Strand where it would be almost impossible for a wheelbarrow to go, and certainly for a horse or motor ambulance, and then a wheel litter might be useful there; though of course it would do equally well to have the litter taken out of the ambulance carriage and carried up to the ease.

3180. I was going to ask you whether in the City ambulance there is provision for removing the litter from the interior to meet the ease of a crowded court such as you suggest?—Yes, quite; the litters run in and out in the City ambulance on rollers, just as they do in the Paris ambulances and in those of the Metropolitan Asylums Board.

3181. Did you find, when you investigated the case of the use of the City ambulance, that it was superseding the use of the police hand ambulances in that area?—Certainly.

3182. Should I rightly understand the view you advocate in regard to the ordinary police constable to be that, if this system which you suggest were adopted, the police constable's duty would be reduced to guarding the injured

person and summoning the ambulance by telephone?—Yes; but at the same time I think it is desirable that the police should have First Aid knowledge. I daresay you are aware that at the present time directly a recruit joins he is put through an ambulance course. I have witnessed the drill. The whole course lasts for about four days, and certainly it is marvellous how wonderfully apt some of these men are at this work; on the second or third day that they are there, they put their finger on a femoral artery or a brachial artery with the greatest readiness, as quickly as a student; but my impression is that knowledge obtained by such a rapid process, and in so short a time as four days, is probably lost in four weeks, and therefore you want these men to have a repetition of First Aid drill. Some of them get that at the end of their first year, and then they get it again later; those are the men who obtain medals and certificates. I think it would be a very good thing if all the police had from time to time a little refreshing of their original information with regard to First Aid.

3183. Did I correctly understand you to say in answer to the Chairman, that as a matter of practice at the hospital it is found that at the present time there is hardly any attempt at First Aid by the police, although they carefully move the patient?—That is right; that is in the evidence which I have given.

3184. A previous witness was asked: "Your evidence up to this point amounts to this: That it would be easy to give the police, who presumably are of average intelligence, instructions which will enable them to decide the manner in which a case should be taken to hospital," and the answer was "Yes; I do not think there should be any difficulty about it at all." You think that discretion should not be left to the ordinary constable to decide the mode of conveyance to the hospital?—Even if he were better trained than he is, I do not think so. I think there ought to be definite instructions with regard to certain cases, that he should not permit the patient to be moved without an ambulance, unless it was at the absolute insistence of the injured person or the friends.

3185. You mean that in any but an obviously trivial case the ambulance should be summoned?—Yes.

3186. I had not quite gathered that from your answer?—I stated that it should not be left to the discretion of every constable to decide whether the injured person should be removed in an ambulance or in another form of vehicle, such as a cab, cart, or barrow, and that there are certain cases in which he should be instructed to insist on keeping the patient on the spot until the arrival of the ambulance.

3187. I understand that the suggestion is that in cases of any gravity the instruction to the ordinary constable would be virtually: "You telephone for the ambulance, and we do the rest?"—Yes, that is practically what I mean.

By the Chairman.

3188. What I understood you to say was that you thought that certain rules might be laid down as to the mode of conveyance to be adopted in relation to the character of the injury, the part of the body injured, and so on, which the constable should be bound to follow?—Yes; if you think that there is any discrepancy at all between what has been my answer to Sir William Collins and my answer to you, it lies rather in the fault of the diction in my *précis*, that it perhaps may not have included all the classes of cases which are grave cases; but I should say certainly that in all grave cases it ought to be the constable's duty to insist on having an ambulance.

By Sir William Collins.

3189. Is it reasonable to expect a constable to ascertain the part of the body that is injured?—No, I do not think so. By that I mean that it is not for him to make examination into the physical condition of the patient, such as would be done in a hospital to investigate the ease. It may be obvious to him that it is the chest, or the abdomen, or lower limb and not an upper limb, or the head that is injured; but I do not think that it is for him to investigate as to whether the man is likely to have got any internal hæmorrhage or any internal organ ruptured.

3190. The injury, I apprehend, may be multiple, involving various parts of the body?—That is so.

3191. Did you in the course of your investigation into the existing system see anything in the way of the horse ambulances of the police in London?—No, absolutely nothing.

Mr. Henry Morris.

3192. It was stated in a memorandum that was put before the Committees of Parliament who investigated this question, that there were three horse ambulances and that they were in constant use. I think we have been since informed that they have been condemned or destroyed?—I had given to me direct information at Scotland Yard, where they told me that they are absolutely useless.

By the Chairman.

3193. Sir Edward Henry told us so here?—Yes, they are old-fashioned and practically worn out and useless. They never use them now.

By Sir William Collins.

3194. Have you seen the Metropolitan Police ambulances or litters which have been placed about in various parts of London lately?—No, not the latest new ones in their actual stations, but I have seen various forms and slight modifications, and I have seen the newest kind of ambulance at Scotland Yard.

3195. Have there not lately been some additions of the old pattern, in various parts of London where accidents are likely to occur?—So I understand.

3196. Do you think that those will meet the necessities of the case?—No, not at all.

3197. Have you formed any estimate of the number of rapidly moving ambulances which would suffice, either for the County of London, or the Metropolitan Police District?—I cannot say that I have as to the number of ambulances, which would depend upon whether they were horse-drawn or motor ambulances, but I should think probably eight or ten stations within the accident area of London would be ample, perhaps even more than would be found to be necessary.

3198. There is at present only one motor ambulance working in the City of London?—Yes, only one.

3199. Does it fairly serve that area?—Yes, that side of the City. They are proposing to have another in Basinghall Street (indeed it is actually in process of being equipped), with which they propose to serve the east end of the City; and I think with those two they will have probably enough.

3200. Do you think that there is anything so essentially different in the portion of London that is outside the City as to make it likely that a system which works well in the City would not work well outside?—Not at all; it is merely a matter of multiplication, I should think.

3201. Perhaps you are aware that when the London County Council in 1901 approached the Commissioner of Police, they were informed that the necessity for horsed ambulances had not then been established?—I do remember that.

3202. Of course in the case of the provinces, as I think you stated, the difficulty of authorities does not arise so specially as in London, owing to the fact that the police are municipal?—Quite so, or under what is called the Watch Committee.

3203. Which is partly municipal?—Yes.

3204. Have you found in the course of your investigations any case in which the service for street accidents is under the same department as the service for infectious diseases?—My investigation in Berlin shows that and my investigation in Paris shows it.

3205. Do you know of any case in this country?—I am not quite certain whether I was told by Mr Erskine, a former house surgeon at Preston, that the ambulance at Preston, which was given to the hospital by a wealthy lady, and which they have worked ever since for street accidents and non-infectious cases, is also used for infectious cases. I rather think he said that it was not, and that they disinfected it afterwards if by chance it was so used.

3206. Was that a private ambulance?—No, it was given by a lady to the Preston hospital, and the Preston hospital people work it; they keep it at a mews quite close to the hospital, and work it by horses from the mews.

3207. That, as I apprehend, is not under public supervision?—Yes, it is in this sense—it is under the hospital.

3208. But I meant under municipal control?—No, it is not.

3209. In regard to the Middlesex Hospital cases, in addition to the book that you have been so good as to put in, there was a return made, I think, from observations kept between April 29th and May 12th of this year?—Yes, I have not studied that list; I have had an opportunity of seeing it, but have really not had time to study it.

3210. I find there that 25 cases are dealt with, and that 19 were brought in cabs, 14 apparently by the police?—Yes.

3211. A good deal of work at the Middlesex Hospital is done by cabs, I understand?—Yes.

3212. In regard to Paris, I asked Dr. Nachtel (*Question 2886*): “Are there not seven institutions now altogether?” and his reply was: “No, I do not know of any more than the two I have named. They had one at The Marché St. Honoré, which they have discontinued; they have only the St. Louis Hospital and Caulaincourt, and, as I say, they have another for infectious diseases, which they are obliged to keep entirely separate.” I gathered from the information that you have laid before us that there is a larger provision than is stated by Dr. Nachtel?—There was never, so far as I could make out, a separate station for ambulances for infectious cases. At all these places under the municipality which were started two years after Dr. Nachtel’s *ambulances urbaines* at the St. Louis Hospital, the ambulances have been for infectious as well as non-infectious cases. In Paris there used to be seven stations. I think I have stated that the intention was to start four *urbaine* depots and four municipal depots, but they started with seven, which are set out on page 6 of this little book, “*Service des Ambulances Municipales et Urbaines*,” which I will leave with the Committee.

3213. I see that is dated 1900?—Yes, they have none more recent than this—though they are getting one out—but this gives seven stations. There is one at Rue de Stael, one at Place du Marché, Saint-Honoré, one at the Asile Michelet, which was originally for a refuge for working women in their confinements. That was done away with, and the station at Rue de Stael and the station at Place du Marché, Saint-Honoré, were combined, and the Falguière station, on the left of the Seine, was started in place of these other three.

3214. Then does that system cover the whole of Paris?—It covers the whole of Paris, and it goes beyond the fortifications.

3215. Do you know how far the wheel litter or stretcher is still employed in Paris?—I do not think it is used at all, except that it is just kept at some of the police stations for quite local use.

3216. Then as regards the voluntary system as against the municipal system, on which Dr. Nachtel gave some evidence, do I correctly understand from the Memorandum that you have put in that in Berlin the voluntary system has recently been given over in favour of the municipality?—Yes, put under the municipality.

3217. So recently as April 1st of this year?—Yes; they are not in thoroughly regular working order with them yet; so I gather from Professor George Meyer’s return.

3218. In Berlin, and I think in many other towns in Austria and Hungary too, there is a practice, is there not, of having small rescue stations?—Yes, and that is a very important feature in Berlin.

3219. I wonder whether you could give us any opinion as to the advantage of that, or would you consider it unsuitable in this country?—No, I should not consider it unsuitable, but I think that, with a rapidly-moving ambulance, it is not necessary. We have not got it now as it is; but, of course, it is a very large feature of the Berlin system.

3220. I have seen it at work also in Buda Pesth and Vienna?—Yes.

By the Chairman.

3221. Is there anything else that you desire to add?—No.

3222. With regard to the chemists’ shops in Paris, that is a curious feature. I suppose it is really a sort of traditional custom or habit to take people into a chemist’s shop?—That is the regular thing; the people are wedded to it. And, of course, the number of chemists’ shops in Paris is infinitely greater than the number of chemists’ shops in London. You see chemists’ shops nearly everywhere—at a large number of street corners, like public-houses in London.

3223. It is a sort of public burden that the chemist is bound to undertake by public opinion?—Yes.

3224. He does not get any remuneration for it in any way; it is not recognised?—No, I do not think so; but it is a regular thing. In the case of an accident taken to a chemist’s shop in Paris, the chemist gets no fee, but he is remunerated for anything he supplies in the way of medicine, lotions or dressings, &c.—by the injured person if he can afford it, by the Préfecture de Police if he cannot afford it. The ordinary average amount thus annually charged to the police is, however, very small, not on an average more than from 3,000 francs to 4,000 francs per annum.

3225. It would be a difficult thing to introduce anything like it in London?—Yes.

3226. It would be out of the question?—Yes, it would be quite out of the question, I should think. You would have to establish more chemists’ shops first.

3227. Is there anything else you wish to add?—No, thank you.

Sir WILLIAM S. CHURCH, Bart., K.C.B., D.Sc., M.D., called and examined.

By the Chairman.

3228. You are late President of the Royal College of Physicians of London?—Yes. I should like to say in the first place, if I might, that Mr. Morris having been kind enough to let me have a copy of the *précis* of the evidence that he wished to give, I did not wish to duplicate his evidence, and I thought that a great deal of the matter which he has just given you I need not go over again therefore I purposely made my *précis* as short as I could, and on personal points.

3229. You wish to deal with the question principally, I think, from the point of view of the physician?—My experience is, of course, on the medical side.

3230. Perhaps you will tell us what your experience has been?—My personal experience has been chiefly confined to medical cases. I have been connected with St. Bartholomew's Hospital since 1862—I was then only a student—when I was a dresser, and subsequently a clinical clerk. Then during 1866 I was in charge of the cholera wards, and during the time I was in charge of those wards the resident apothecary was incapacitated, and for several months I did the bulk of his work. Then I was appointed assistant physician in 1867, and physician in 1875.

I should like to mention the very great improvement that I have seen take place in the way in which both sick and injured are transported to hospitals now, as compared with when I was a young man. Personally—of course this is only my own personal view—I attribute it chiefly to the St. John Ambulance Association, and the education which they have given in First Aid and in various other matters, and also to Mr. Bischoffsheim's liberality in instituting and maintaining a very considerable system of litters. I think those two facts have led to a very great improvement in the way in which the police handle such cases now as compared with former days. In my own opinion, the defects in the present system are mainly connected with the transmission of the cases to the hospitals, or to the persons' homes. In medical cases the essential point is to get them as quickly as possible, and with as little disturbance as possible, to the hospital or to their homes. First Aid in medical cases is comparatively valueless. After First Aid has been rendered it is equally important to get the surgical cases quickly to the hospital or to their homes. It is already shown by the experience of the city ambulance system that removal from the site of the accident to the hospital is greatly expedited by the use of a motor ambulance.

3231. I suppose you have had that brought before you a good deal?—I should like to bring forward (I do not know whether this is the right time) some facts about that.

3232. If you please; I think so?—Captain Nott Bower has been kind enough to furnish me with the official records of the working of their motor ambulance from the 13th of May to the 15th of December.

3233. The 13th May is when it started?—Yes. They have been called out 724 times. Their aid has been refused in 62 instances, either not required or refused. In 15 cases it was not required on arrival of the ambulance, in 29 cases the patient refused to go in the ambulance—that is to say, refused to go to the hospital in the ambulance. The city ambulance service does not undertake, as I understand, to transfer persons to their own homes. They transfer them virtually all to St. Bartholomew's, and if a person wishes to go on home, further arrangements are made for taking him home. The reason of that is that they do not wish their ambulance to be sent perhaps two or three miles away from the city to patients' homes, as they might be called in the meantime. One patient was removed by the Metropolitan Police before the arrival of the ambulance; there were three false alarms, three times when it was called out by false alarm.

3234. A hoax?—That I cannot tell you; but it is only three. The supposition is that somebody thought an accident had happened and took upon himself to pull the alarm.

By Sir William Collins.

3235. Does an ordinary person have access to the call?—No, he ought not to have. The post is supposed to be locked, and the policeman has the key for opening it.

I did not get detailed information, but as a matter of fact there were three false alarms. In two cases the patient preferred to walk after the ambulance reached the spot; eight cases, which of course ought to be included really in the 724, were dead upon arrival of the ambulance; two were removed on hand litters before the arrival of the ambulance, and one of the 724 was an experimental call, which was not made for my benefit, but I rather think it was made for the benefit of Mr. Morris, who has just left you.

By the Chairman.

3236. He told us that he had one call made?—Yes. And on one occasion the ambulance was used outside the City for a policeman who was injured.

3237. Is there anything in those records to show the character of the cases, distinguishing between those patients who were detained at the hospital and those who were only slightly injured? Some of those 724 cases were probably slight cases, and the patient would leave the hospital at once?—I cannot tell you that. Then there have been several occasions in which more than one patient has been removed at the same time by the motor ambulance; I do not know whether you would like to hear about that.

3238. Yes, I think it would be important?—They are only counted as single calls but they dealt with more than one patient; they were three girls in hysterical fits; two men who were knocked down by a hansom cab; one man and one boy, the result of a collision between a motor 'bus and a wagon and a barrow, all three; three persons injured in a gas explosion; two men injured in a collision between a motor cab and a street refuge; two men injured at the Blackfriars Bridge disaster, and since dead; one woman and one child knocked down by a motor 'bus skidding; three youths injured by a motor 'bus skidding; and two women who were thrown out of a cart. I should like also to say, although I have not got it officially from Captain Nott Bower, that I have had interviews with him, and I have also had interviews with the men who work this ambulance at St. Bartholomew's. I should also like to state something of the opinion of the medical officers at the hospital, and also I have got a return from St. Bartholomew's Hospital of all the cases brought to the hospital from the 1st of November to the 18th of December, showing the means by which they were brought, from which you will see that there are a considerable number of accidents brought there which are brought from other parts of London than the City, which I thought you might like to know. The return, I am afraid, is only for a short time because it is a very great labour for the hospital to get it out, and I only asked them to get it out from the 1st of November until I was examined. I did not know at that time that you were going to have me to-day or I would have asked them to go back another month perhaps. But keeping to the city ambulance, I should like to say that I made inquiries from Captain Nott Bower, and from the men, as to how often a call had come when the ambulance was in action, and I find that it occurs about once a week, not oftener, on the average, and in several of the cases in which there had been two calls almost at the same time, or nearly at the same time, by some means—I suppose by passing along the street or something of that kind—particulars of the second accident have been communicated to the site of the first accident, and the motor ambulance has been able on its way back to the hospital to take the second accident. That has occurred, I think, three times, I will not be certain whether it is three or five, where there have been two accidents occurring within a very brief space of time.

3239. I suppose the call is forwarded to the hospital and communicated to the ambulance?—It is done in this way. All the calls for the ambulance come from the central station. The motor ambulance has gone from the hospital by the time that the second call comes, but from the central office they communicate with their nearest fixed point to where the first accident occurred. I believe it is in that way that it is done.

I will now give the accidents which were brought to the hospital from the 1st of November to the 18th of December. The City motor ambulance in that time brought 50 medical cases and 131 surgical cases, altogether 181. The police

Sir William Church.

hand ambulance brought 11 medical cases and 47 surgical, altogether 58; but, of course, those were not from the City district.

3240. Do no hand ambulance cases come from the City district now?—There are two in that return. By cab 27 medical and 95 surgical cases were brought; by van 3 medical and 45 surgical; by the St. John Ambulance 5 medical and 8 surgical; by barrow 7 surgical; by the Metropolitan Asylums Board Ambulance 1 surgical; by an infirmary ambulance 1 medical; and 21 walked in with the assistance of police constables—4 medical and 17 surgical cases. The total number of what you may call emergency cases—because this return does not take in other cases which are brought to the hospital—in that short time was 452.

3241. That is including all those figures that you have been giving?—Yes, and of the 452, 346 were men and 106 were women.

3242. I suppose we may take it that all those cases, both medical and surgical, were accidents or cases of sudden illness?—No, you cannot do that. A great many of the medical cases were probably cases of illness occurring in their houses, who were sent on by the first doctor who saw them.

3243. But so far as the City ambulance is concerned, I mean?—I inquired into that. They are all either cases of persons meeting with an accident or sudden illness in the streets, or in an office, or shop, or place of business.

3244. They take such cases as those, do they?—Yes, the City authorities do if they are communicated with, and they informed me that people were getting acquainted with the fact of there being this ambulance, and they got more calls of that sort.

3245. And they do not refuse to go to a house and take an urgent case?—No, I am afraid I did not inquire whether they got that sort of call at the central office; but if a person goes out into the street and says to a policeman, "There is a person very ill in the house," then that policeman immediately gives the signal, and the ambulance is sent for.

3246. A witness told us that on one of the days when there were great crowds about, Lord Mayor's Day or some occasion like that, an accident happened at Cheap-side or somewhere there, and the police told him, "It is no use sending for the ambulance, it will not come out in these crowded streets." Have you heard anything about that?—I have not heard anything of the sort. You know better than I do that on all occasions of that sort there are other ambulances available. There is the St. John Ambulance Service out, and the Volunteer Ambulance Service out. I purposely have not said anything about the St. John Ambulance Service or the Volunteer Medical Service, because I should propose myself that their work should not be in any way interfered with or altered. I should like to bear testimony to the very excellent work of the St. John Ambulance Service; but that is of a different sort altogether.

3247. For special occasions?—Yes, and for the removal of private patients. But I imagine that probably these five cases that they have brought to hospital were cases of sudden emergency.

Then, perhaps, I might say that I have made inquiries of the medical officers who receive these cases at St. Bartholomew's Hospital and of the two junior assistant surgeons who are more especially in charge of the casualty department, and they tell me that there is a marked difference now in the sufferings of the patients that come in after an accident, as compared with when they were brought in in other ways.

3248. What one really wants to know is whether there is a marked difference between those brought in in the City ambulances and those brought in in hand ambulances?—All the city accidents are now brought in by the ambulance; there were only two that were not.

3249. But you still get cases in hand ambulances brought from outside the City?—Yes.

3250. One would like to know what the evidence is with regard to the condition of patients coming in in the City ambulance, as compared with the patients coming in in the hand ambulance?—We had 58 brought in by hand ambulances by the police. Those were all street

cases, and the opinion of the officers who receive those cases is that those brought in by the motor ambulance suffer much less than those which have been brought by the police ambulance.

3251. But 58 were brought in ambulances by the police?—Yes, in litters.

3252. The wheel litter?—Yes, what used to be called the police ambulance.

By Sir William Collins.

3253. They were brought by the Metropolitan Police?—Yes. Then I should like also to say how greatly it is found that the removal of patients is expedited by means of the motor ambulance in the City. The average time that used to be taken when there were only hand litters was 20 minutes. Taking the average time from the time that the police were acquainted with the accident to the time when they delivered the case at the hospital, the average time was 20 minutes or more.

By the Chairman.

3254. That involves the time occupied in sending for the ambulance, and the ambulance reaching to the accident, and the patient reaching to the hospital?—Yes. With the present motor ambulance it is 9½ minutes. I should like also to say that it has now been in use since the 13th of May last, and there has never been the slightest breakdown or hitch. At present, they have only one ambulance running, but already they intend, as Mr. Morris told you, to have a second station on the east side of the city; but they have at the present time two chassis in case of a breakdown, and it takes them between two and three hours to move the body, the actual ambulance, from one chassis to another, so that in case of a breakdown it would merely mean a delay of a few hours, during which they might not have a call, or they might.

3255. Of course, if a breakdown occurs when the ambulance is actually conveying a patient, that is more serious: but there has been nothing of that kind, you say?—No. Then the next thing I mention in my *précis* is, of course merely an opinion, that the Metropolitan Police should have the same duties with regard to accidents and sudden illnesses placed on them as is now the case in the City. That is very strongly my view. I do not think it is possible to deal with street accidents and cases of sudden illness in the streets, except by the police.

3256. I do not know whether you were in the room just now when Mr. Morris was giving his view about the character of the attendance that is required?—Yes, I heard it.

3257. Do you agree with it?—Yes. I made inquiries, so far as I could, from the officers of the hospital on those points, and they tell me that the First Aid rendered by the City police is excellent, and the First Aid rendered by the Metropolitan Police is not so good as that of the City Police, but it is not bad. I asked whether they could give me instances in which the First Aid rendered might have been deleterious or hurtful, and they said that they had had such cases, which I do not think you could prevent. The worst case was one in which a large varicose vein had burst, and the First Aid policeman applied a tourniquet, but he did not apply the tourniquet sufficiently powerfully to stop the arterial blood, though he did stop the venous blood.

3258. Did he not put it on the wrong place?—Not, I think, in that particular instance; that was an earlier instance, I think.

3259. I suppose that is a mistake which is very apt to be made?—Yes; but that was the only case in which I could find at the hospital that they thought it would have been better perhaps if First Aid had not been rendered. I do not know that it did any real harm.

3260. We have had one of the St. Bartholomew's Hospital surgeons here.—Yes, but this has occurred since he gave evidence. The provision for the Metropolitan Police of motor or horse ambulances, with a system of telephonic calls, similar to that now in use in the City, would necessitate a very large initial expenditure, and also be costly to maintain.

I wish particularly to draw your attention to what I put next in my *précis*. Besides accidents and sudden

illness in the streets, those which occur on enclosed premises should be dealt with by the police. The city police tell me that they really now do this ; that, as I said, people come down now to a policeman in the street and say "We have got a case of sudden illness, what are we to do ?" and they at once send now for the ambulance and the person is taken to hospital.

There is another class of cases, which I suppose is not quite within your reference, but which I should like to allude to, which are in need of better means of transport than now exist. I refer to cases of illness among the poorer classes, not paupers, which, in the opinion of their medical attendant, should be removed to hospitals or infirmaries.

3261. We should like to hear what you have to say about them ?—Such cases undoubtedly suffer from the absence of proper means of transport. Cases of that sort I can speak of from my own personal experience. I have not the slightest doubt that they suffer very materially. Sir William Collins will be able to follow me, but I have written on the subject, and I have taken great interest during the greater part of my life, in acute rheumatism. A patient with acute rheumatism was placed in agony when he was moved, and it is a very frequent disease in London ; and these poor patients used to be brought to hospital wrapped up in flannels, some on stretchers, some on doors even, and the majority in cabs ; they had to be hauled down from their rooms and transported to the hospital in that way. The consequence was that you ordinarily found that their greatest fever and distress was in the night following their removal. That was very marked when I was younger ; but the treatment of rheumatic fever was very different when we did not make use of means which now very rapidly lower the temperature, and have very much robbed rheumatic fever of its horror. These cases used to be most distressing, and certainly they suffered pain, and, I believe, material harm from the way in which they were transported.

3262. Would you say that cases of that sort where medical treatment is required, and there is really no means of transporting them to hospital, are very numerous ?—Yes, they are numerous. The larger number of medical cases in large general hospitals are cases which have been attended by a doctor at home, who says : "Really I can do nothing more for you here ; the best thing you can do is to go to a hospital." Almost all those patients are still transferred either in a cart or a cab.

3263. Therefore, if you had a complete ambulance service, such as is stated to exist in New York and Boston, those cases would form a very important portion of those that have to be dealt with ?—Yes.

3264. Would you say that any ambulance system is complete which does not provide for that ?—No. Then I did not put anything on my *precis*, because it is not within your reference, but I am prepared to offer suggestions for the transport of such cases.

3265. It is not strictly within our reference, no doubt, but still it is so very closely connected with it that we have not thought it right to exclude evidence on the subject ?—I am prepared to make suggestions. I have gone a little into the subject.

3266. Without going very much into detail, perhaps you will tell us generally what your suggestions are ?—I might say that I differ entirely from the evidence you have just heard. My own opinion is that the whole transport of the sick and injured should be under one authority and in one hand ; and I believe that something on these lines is workable and would prove economical. At the present moment there are a number of different bodies who transport sick and injured people. First of all there are the Guardians under the Poor Law, distinct from the Metropolitan Asylums Board. There is constant moving of sick and infirm patients from workhouses to infirmaries, from infirmaries to hospitals, and from workhouses to lunatic asylums, and also in a good many cases from hospitals (from workhouses and infirmaries occasionally, but especially from hospitals) of sick back again to their own homes. I might say that I have made enquiries, perhaps not very deep ones, into the system that the Metropolitan Asylums Board have for transporting the cases which they transport. I find that they have already two services ; they have a service for infectious cases, and they have also, although it is not very largely developed, a service for non-infectious cases. I believe that by putting the whole of the transport of the sick and injured into their hands you would effect a very large economy. If they had the transportation of all the persons who at the present time are transferred by other authorities under the Poor Law, if it was all put into their hands, and there was a fixed tariff for moving these patients, I believe that the money that the Asylums Board would earn in that way would go a considerable distance towards pro-

viding the means for what I should then call their emergency service, and I do not myself think that the populace would imagine that they were being carried in an infectious ambulance. At the present moment there is not any very great distinction of colour. Both sets of ambulances of the Metropolitan Asylums Board are made as little like an ambulance as they can be, so as not to attract notice in the streets ; they look like broughams, most of them. They are painted a darkish colour, the infectious ones a darkish green and the non-infectious ones a darkish blue. A distinct service of men is kept now to clean and disinfect these carriages. A man who is occupied in cleaning and disinfecting an infectious ambulance does not clean and sweep out a non-infectious one. I do not myself believe that there would be any practical difficulty in keeping the two services more or less distinct. I agree entirely with Mr. Morris as to the excellence of the ambulance service of the Asylums Board. I have been to one of their stations ; I have been in fact to several, but not of late. Of late I have been only to one, and I went thoroughly through that, and my own view is that the best thing you could do would be to put the whole transport of the sick and injured into the hands of one body, and I believe the Asylums Board would do it very well. I have had long conversations with their clerk, Mr. Mann, and he sees no difficulty either, and he does not think it would very greatly add to their expense. I do not agree at all with what I heard the President of the Royal College of Surgeons say, that it would require them to establish a good many large new centres. If they had a system for what I should call these emergency cases, these slight cases, which we will keep for the moment distinct from others—I could make clear what I want to say much better by means of this metropolitan police map of London (*producing the same*). This is the four-mile radius (*describing*). The whole of the present stations of the Asylums Board are outside this four mile radius, but they are not badly placed for serving *this* part ; and *here*, with the exception of certain spots, you cannot say they are within what you might call the accident area ; you might possibly require one for the accident area down the river *there*. But they are outside. You probably know better than I do ; I have not made inquiries from the metropolitan police what the accident area is.

3267. We have figures given us by the Commissioner of Police ?—I have made inquiries from the city police and from the men who work the ambulance, and they are all of opinion that they could work the same distance on the other side. At the present moment the city ambulance station is almost at the extreme verge of their north-western boundary, and the men who work it say that it is so seldom that they get a double call that they could work the same distance on the other side. Therefore, I think that, at all events to commence with, it would not be necessary to have an area for each ambulance station of less than a mile radius. If you have that, you will find that you completely cover the central accident area with five or, at the outside, six stations. Those stations need not be large, because all that is required is a place like they have at St. Bartholomew's, which is large enough for a motor ambulance to go in, so that it stands there, and with just a sufficient number of rooms above it for the three men who have to be in constant attendance ; that is to say, that each station would not cost more to acquire than an ordinary shop does, where the shop part, the lower part, would be where the ambulance stands, with rooms for the men either at the back (in which case all above might be used for other purposes), or the rooms for the men above. You might also want one or two special emergency stations where there are large centres. I ought also to have said—you are probably well aware of it—that the London docks have police of their own, and a system of ambulances of their own.

3268. We have had evidence on that subject.—No doubt.

3269. Of course, from one point of view, the need of rapidly moving ambulances is greater in the outer districts than in the inner, where the distances to be travelled to the hospital are generally less ?—Yes ; but you can have it. There is Homerton station *there* (*referring to the map*) ; there are Fulham and Stockwell *here*, not very far apart. You would want probably one emergency station on the south side of the river. *There* is Hammersmith, and *there* is the Brook Hospital at Blackheath. You cannot expect in this large area to have them very close. The number of accidents that occur *here* is very small, but I would put all the police fixed spots *here* in communication with the Asylums Board station.

3270. I suppose that, from your point of view, the greater would include the less, and if it were a matter of

Sir William Church.

dealing only with street accidents you would suggest utilising the Metropolitan Asylums Board ambulances for that purpose?—I propose that they should establish in the accident area some five or six new stations, but they would be only stations for a single ambulance, or at the most for two.

3271. Would you, from your point of view, supersede at once the wheeled litter, or would you allow the two systems, for a time at all events, to go on side by side? You could hardly dispense with the wheeled litter altogether, could you?—I think you could dispense almost entirely with the wheeled litter, but you could not dispense entirely with the stretcher.

By Sir William Collins.

3272. They seem to have been dispensed with almost within six months in the city?—Yes, I think you might almost dispense with the wheel ambulance—the wheeled litters. You would have to have stretchers. I was going to ask whether you wish me to say anything about what the city ambulance at the present moment is fitted with.

By the Chairman.

3273. Have you anything to say about the fittings: do you think they are good?—I think they are very good indeed. All I wanted to say there is, that I think that they carry a small surgical case with them, but that is not intended for their men to use in First Aid; but supposing that there should be a medical man on the spot, it is there for his use. For instance, they do not profess, and I do not think it is at all desirable that the First Aid people should attempt to take up an artery or anything of that sort; but if a medical man happens to be at the site of the accident, and it is an accident of that sort, he finds in the ambulance what is necessary for assisting the patient.

3274. Have you anything to say about the size of the ambulance?—The present ambulance carries two lying down, and can carry two, if necessary, not lying down, or even three. I am strongly in favour of motor ambulances, because, for these emergency stations, they would be much cheaper; you do away with the stable and the horses.

By Sir William Collins.

3275. And they require a smaller site, I suppose?—Yes, a smaller-sized station is required.

By the Chairman.

3276. That is a very important consideration in the accident area, of course, because of the expense of the ground?—Yes.

3277. Do you agree with what Mr. Morris said about the character of the attendants, that you do not want a medical man?—I do not think you want a medical man.

3278. Or even a medical student?—No, a medical student, I think, would not be advisable, partly for the reasons that Mr. Morris gave, and partly for other reasons, which I do not know that I need give you.

3279. I suppose it would be rather difficult with your hospital organisation?—It could only be possible in the case of the ambulance station being, as at St. Bartholomew's, at the hospital. It could be worked from the hospital. The hospital, if it was wished, I think would undertake to work it, but it would not be available unless the ambulance was actually kept, as at St. Bartholomew's, at the hospital, so that at the same time that the ambulance is summoned, a dresser from the surgery would be summoned, and jump in.

3280. Do you agree with Mr. Morris that the character of attendant that is really required with an ambulance of this kind is a police officer who has obtained sufficient knowledge to get the St. John Ambulance medal?—I think that is quite sound.

3281. You agree with it?—Yes. I should like, with regard to the distance that these ambulances can go, to read a letter which I have had from the Massachusetts General Hospital, from Dr. F. A. Washburn, Acting Administrator.

3282. That is at Boston?—Yes: "I am requested by Dr. J. Collins Warren to furnish you with a statement of the ambulance work performed by this hospital. We have one horse ambulance and two electric ambulances. These respond to calls from a physician, the police, or other responsible source, subject to the approval of the Resident Physician." As you know, it is kept at the Massachusetts Hospital. "We will send our ambulance"

(this is the part that I wish you to know) "to a distance of four miles in air-line from the hospital." Their experience rather goes to show that a very considerable area can be worked by a single ambulance station.

3283. So it is in New York, where very considerable areas are assigned to each hospital by the Commissioner of Police?—There is no other part of that letter really that bears on the subject. I will not trouble you with it. I should also like to read to you a letter which Mr. Harrison received from Dr. Ludlam since he gave evidence before you, and it is an important letter rather, because Dr. Ludlam has, since Mr. Harrison gave evidence before you, had an opportunity of coming to London: he wished to inform himself of the ambulance service in London, and he made a great many inquiries; and he also saw the working of the City ambulance. His letter is dated the 9th of September: "I saw the new motor ambulance at St. Bartholomew's and was deeply interested in it, and pleased at the enthusiasm and intelligence displayed by the men (police) in charge. The vehicle itself is admirably adapted to the purposes for which it is intended, and is, in some respects, I think, in advance of the type in use in this city." (That is New York.) "Its record is excellent. I was told it had been in commission for three months without a breakdown and without expenditure for repair. This speaks volumes for the excellent construction, and for the intelligent care taken of it. The system, of course, is quite different from ours, but seems to be effectual, and if, as I was told, the members of the police force who accompany it on a call, are all thoroughly instructed in First Aid, the services of a doctor may be dispensed with, until the patient arrives at the hospital. I congratulate you on this successful result of your prolonged effort." Then also I think the next paragraph is interesting. He says: "As I went about the city, visiting hospitals, fire stations, &c. and inquiring about the new ambulance system, I was somewhat surprised to find either a lack of information about it, or else indifference to it, with the conviction that the old order of things was good enough. I tried in vain to get some definite idea of the working plan of this old order."

By Sir William Collins.

3284. What is he referring to?—The old order of things in London: "Probably I was not fortunate in reaching proper sources of information. So far as I could learn, the present provision for dealing with street accidents consists of hand trucks and horse ambulances. These last would seem not to be in such close touch with the authorities as to ensure prompt service. At least I saw complaints to that effect in the public press, while those with whom I spoke appeared to think the service" (that is the general service) "very satisfactory. I wondered at this, and I judged, that somehow the new system" (by the new system he means the City ambulance) "had failed to impress itself upon the public. The London public needs to be awakened, first as to the necessity for a street ambulance service, and next as to the fact that the problem has been successfully solved. I saw no street accidents, but I saw many patients lying on hospital cots, who were the victims of such accidents, and when I asked how they were brought to hospital I was informed that they came on carts, drays, and I am not sure but what shutters were mentioned, in fact, as we would say in our local slang on 'any old thing.'" I do not think it is necessary to read any other part of it.

By the Chairman.

3285. In the case of street accidents would you limit the duty of the police constable simply to guarding the patient, and not giving "First Aid"; you prefer that he should simply keep the crowd off?—I think that all the police ought to be instructed in what I would call rudimentary First Aid. I have suggested that each ambulance should have a driver and a man with it the same as the city one has, and that the policeman who goes with the ambulance other than the driver, the man who is inside, should be instructed in "First Aid," and have the amount of knowledge which it is supposed that every one who gets the medallion from the St. John Ambulance Association has at the present moment. That is the case in the City now; they make a selection of the men who are on duty, for their ambulance. All their men get instruction in First Aid, and those who get certificates, or what is called this medallion, are the men who actually go in the motor ambulance.

3286. The ordinary police constable should just have a slight general instruction so as to know how to lift a man suffering from an accident, and to keep him out of

harm's way till the more skilled man comes with the ambulance, and then the ambulance is to bring the patient to the hospital as quickly as possible?—The more skilled men are quite capable of putting a splint on to a man and then lifting the man into the ambulance. I am told that they do it admirably.

3287. As regards the authority, you suggest that use might be made to a very large extent of the existing ambulances of the Metropolitan Asylums Board?—Yes.

3288. What would, in your opinion, be the best supreme authority on matters of street ambulance administration? Would you have anybody over the Asylums Board so far as regards street accidents, or would you like to put the whole administration in the hands of the Asylums Board?—I suppose the Asylums Board at the present moment are under higher authority?

3289. Yes, the Local Government Board. I should like rather to get at that point, as to who would control the whole question of ambulance service for street accidents?—The Home Office, I suppose. Either the Home Office, as being connected with the police, or the Local Government Board, as being connected with the Asylums Board, one or the other; it is not for me to say which.

By Sir William Collins.

3290. I understand that you advocate a unified system of sick transport for London?—Yes.

3291. Both for cases of medical casualty and illness, and also for surgical cases of street accidents?—Yes.

3292. Summoned by telephone?—Yes.

3293. And worked by electric motor ambulances?—Yes; what I call the emergency stations worked by electric motor ambulances. I think in the outlying area, at all events at first, it would be quite sufficient to have horse ambulances. Motor ambulances would be better, but the existing horse ambulances would serve that very well.

3294. With rapidly-moving ambulances for the whole area, and electric motor ambulances for the four-mile radius, and possibly horse ambulances for the present outside?—I am told that you do not really require the whole four-mile radius as the accident area; but of that you have much better knowledge than I have.

3295. But your suggested five or six stations, I understood, were to provide for the four-mile radius?—Yes.

3296. Would you say, as a hospital physician, that it is very painful to see cases arriving at hospital, as they do now, such as acute rheumatism or a surgical injury, in hansom cabs and four-wheelers?—Yes, I do; very much so. I should like to add there that I think in the interest of the public it is desirable that you should have covered ambulances. I do not think that anything can be more disagreeable either to the sufferer—the patient—or the general public than seeing the person in an open ambulance, especially in medical cases which are often very disagreeable, where you may see people vomiting—vomiting blood sometimes—being carried through the streets; and you avoid by these motor ambulances the attendant crowd. And I should like to say, in connection with that sort of thing, what Mr. Bowlby, who has already given evidence before you, told me only the other day, that he has at the present moment under his care a gentleman who fell in the City and broke both his knee-caps. When he recovered somewhat from the fall, the first thing that occurred to him was, "I shall be carried on a litter with a hundred people following me and saying, 'Is he drunk?'" and he said, "Before I had almost realised it, I do not know where it came from but the ambulance was there;" and almost before he knew where it was, it was at the hospital. This gentleman was so struck with the short time that passed that he said, "You must keep this machine round the corner." The accident occurred just by the Bank, I believe, and he said, "You must keep it round the corner."

3297. I think you said that 9½ minutes was the average time occupied now by the electric ambulance?—Yes.

3298. If that is the average time, there would not be much time for First Aid work being done by the constable on the spot?—No.

3299. And you do not desire to encourage that?—Speaking of my own experience of medical cases, First Aid is frequently injurious.

3300. And so far as surgical cases are concerned, within 9½ minutes I presume that not very much First Aid could be administered?—No.

3301. I think that you said that the surgical box that is carried in the ambulance is not for the use even of the ambulance orderlies, but is for any surgeon who may be on the spot?—Not the surgical box. Inside the surgical box are splints and dressings and things that they apply externally in many cases before they move the patient at all; but there is also a case of medical instruments—artery forceps, and so on.

3302. Putting aside the surgical box, which is for the use of a surgeon if he happens to be there, I understand that any application of splints to a supposed fracture of the lower extremity is made by the orderlies who accompany the ambulance, and not by the constable on the spot?—I cannot answer that question.

3303. But if the system that you advocate were generally adopted, would it be your desire that such First Aid as the application of splints should be performed by the constable on the spot, or by the attendants who accompany the ambulance?—I think that the City Police are really fairly well instructed in First Aid, and I can imagine that it would be better for the patients that the policeman who is first summoned, and is waiting for the ambulance, should in some cases put on a splint; but I think that his first duty is to keep the patient, if possible, perfectly still, in as comfortable a position as he can be placed in.

3304. And to summon the ambulance?—Yes, of course. That is generally done by another man; they communicate to the next policeman.

3305. I understand that you object to the suggestion of Mr. Morris as to the authority, namely, the police; you would prefer the Metropolitan Asylums Board for the purpose?—I think it would be perhaps a more perfect system to have the whole of the emergency cases transported by the police, as well as first taken care of by them; but it seems to me that it would be a very great expense.

3306. I wondered whether you would have any objection to the police being the authority, rather than the Asylums Board?—Only that I think it would entail such an enormous expense, because they would require to have one or two large stations where they would have to keep their reserve ambulances, which would occupy a great deal of space; and if that had to be acquired within the congested area, the expense of obtaining those sites would be enormous.

3307. You think that there should be one unified system worked throughout the whole of London?—Yes.

3308. Do you think that the City Police would be ready to surrender their ambulance system to the Metropolitan Asylums Board?—No, I am quite sure they would not.

3309. To that extent, then, the unification would fail?—No, because there is scarcely any transportation of sick, other than sudden cases of emergency, in the City of London; there is no Poor Law infirmary, and no workhouse inside it.

3310. But the Asylums Board ambulance runs through the City for the purpose of infectious disease?—Yes.

3311. And if what I understand to be your suggestion were adopted, namely, that the City Police Ambulance Service should remain as it is whatever the authority outside, then surely there would be, at any rate, two ambulance services possessing authority to work in London?—You mean that any infectious case would still be carried by the Asylums Board?

3312. No. I mean, so far as I understood your reply, that the City ambulance service is to continue, and not to be placed under the Asylums Board?—Yes.

3313. Then outside the City the Metropolitan Asylums Board would deal not only with infectious cases, but with street accidents and medical casualties?—Yes.

3314. So that there would be two authorities *qua* ambulance service in London?—Yes.

3315. I think you took an active part in connection with the Metropolitan Street Ambulance Association?—Yes. I took a part.

3316. That Association at their meeting on May 2nd, 1904, carried a resolution to this effect: "That there should be one controlling authority responsible for a uniform and well-organised ambulance service, and that the London County Council, as the central representative body for the Metropolis, was the one best fitted to undertake the work"?—Yes.

3317. I think they appeared by a deputation before the London County Council?—Yes.

Sir William Church.

3318. And you were the spokesman on that occasion for the deputation?—Yes.

3319. And among the reasons urged, I think, for the County Council being the authority were, as I gather from the report of your speech: "It was considered that the Fire Brigade was the best body with which an ambulance service should be united, for the reason that such a scheme would be the most economical to adopt"?—Yes.

3320. You now do not think that the London County Council should be the authority?—No, I think not. As you study a question you find out more about it, and you find out the difficulties. I might say, I do not know that it is germane to the object, that what led the Association to take that view was that we thought that it was the most economical, that we thought by somewhat increasing the number of men at the fire stations and somewhat increasing the number of horses kept, the ambulance service for the streets—mind you that was a pure accident and sudden emergency service which was nothing like what I have proposed to-day—would be most economically arrived at in that way.

3321. I do not know whether you have seen the return from St. Bartholomew's Hospital prior to the establishment of the City Ambulance?—I think I have it here. (*Appendix I., p. 44.*)

3322. It covered a period, I understand, from April 24th to May 8th, 1907?—Yes.

3323. That would be wholly before the institution of the electric ambulance?—Yes.

3324. I gather that in that return there are some 80 cases dealt with, and I see from column 9 that there are about 10 remarked upon as having been conveyed unsuitably, or that their condition was prejudiced by the mode of conveyance. I was going to ask you whether in regard to those conveyed by the electric ambulance any suggestion of unsuitability or of damage to their condition has been hinted at?—I am afraid that I did not make any inquiries as to the 58 brought in on litters.

3325. I was asking you as to the 181 brought in on the electric ambulance. Was no fault found with the mode of transport in those cases?—No. What I was informed by those who received them at the hospital was that the 181 brought by the ambulance did not seem to have suffered so much as the remainder who were brought in different ways—58, I think, by the police hand ambulance, 122 by cabs, 48 by vans and so on. The opinions of the medical officers who received them was that the patients brought by the motor ambulance appeared to suffer less than those brought in in any other way.

Mr. J. E. ADAMS, M.B., B.S., F.R.C.S., called and examined.

By the Chairman.

3335. You are Resident Assistant Surgeon at St. Thomas's Hospital?—Yes.

3336. Previously you were House Surgeon and Surgical Registrar?—Yes.

3337. You give us, first of all, 14,716 as the number of accidents treated as out-patients in 1906?—Yes, that is practically the number of accidents. There may be a few other cases included.

3338. And as in-patients, 755?—Yes.

3339. The 755, of course, are the more serious accidents?—Yes.

3340. And you say that those figures include accidents in houses and factories and so on, and are not only street accidents?—That is so.

3341. Then taking the month of June, 1907, the number of emergency cases brought in by the police, including railway-police, and admitted, was 18. The cases brought by railway-police would be cases happening at Waterloo Station, and others?—Yes; principally brought up from the South-Western line.

3342. Eighteen cases of accident and one case of illness brought by police and admitted?—Yes, that is just for one month in the year 1907.

3343. That represents the number of grave accident for that month?—Yes.

3344. You say that that includes practically all the grave accidents, as those are always admitted?—Yes.

3326. I wanted to know whether in the case of the 181 brought by the electric ambulance there was anything to put, as it were, on the other side of the account. Was it suggested that vibration or something of that sort had been detrimental to those patients?—No, I did not hear it.

3327. Then I see from this table, of the 80 cases prior to the institution of the electric ambulance, that something like 29 were brought by the city police on litters, and I think six by the city police in cabs. Do I correctly understand that, with the exception of two cases, the use of litters or cabs by the city police has now been superseded by the electric ambulance?—Yes, that is the case. There has been no case brought by a cab, I think, from the City, and only two by hand litters.

3328. Then the advent of the electric ambulance has abolished the use of the cab for street casualties in the City?—Yes.

3329. Do you think that there is any such distinction between the City and other parts of the four-mile radius of London that makes it likely that a similar use of motor ambulances there would be unaccompanied by the same good results as in the City?—At the present moment the other portions of London have not anything like the same perfect system of signalling that the City has.

3330. My question is rather whether there is any reason why the same system now in vogue in the City should not be extended to Westminster, Finsbury, St. Pancras and the other parts of London?—No. I think it should be extended to all of what I might call the accident areas. I do not think (I am speaking without real knowledge, of course) from inquiries that I have made that it would be such a very great expense to do it, because the police and the Asylums Board between them have already a great many points for telephonic communication.

3331. Of course the City Ambulance is most advantageously situated as regards St. Bartholomew's Hospital?—Yes.

3332. Would you recommend, in regard to these five or six other ambulance stations that you suggest for the four-mile radius area, that they should be located adjacent to hospitals?—Where it could be done. I think that if you got information from the Metropolitan Police as to the spots where the largest number of street accidents occur (cases of sudden illness are different, of course), you should then, if possible, have a station convenient for that area, and at the same time as near as possible to a hospital.

3333. I think you do not advocate sending either students or doctors with the ambulance?—No.

3334. But you think that well-trained orderlies will do all that is necessary?—Yes.

3345. Are you ever, at St. Thomas's, too full to take in an accident case, or do you take them as a matter of course?—We take in all the cases which are of a grave nature.

3346. Then you go on to speak of the use of the Hospitals Association ambulance during the years 1905 and 1906. What ambulance is that, is it one kept at the hospital?—That is a Bischoffsheim ambulance.

3347. In 1905 it was used 40 times, you say, and it brought 22 people to hospital?—Yes.

3348. In 1906 it was used 29 times, and it brought 24 people to hospital?—Yes.

3349. And it is always used by the police?—Yes.

3350. What do you say as to the condition of the people brought in by that ambulance?—There are very many varieties of accidents brought in by it.

3351. What we want to get at is whether there are cases brought in, either by the ambulance or in other ways, which are affected detrimentally by the imperfect means of bringing them in?—So far as I have had an opportunity of observing, I do not think that the ambulance has prejudiced their treatment in any way.

3352. Do you find many people brought in cabs?—Yes, a very large number, by far the majority are brought in in cabs or some vehicle.

3353. And are there any cases in which that mode of conveyance has been injurious?—Yes, there are a certain number of cases. I have mentioned one example in my *précis*.

Mr. J. E. Adams.

3354. I see you are coming to that later. You say, I see, of the Bischoffsheim ambulance, that the materials for First Aid do not seem to be used very much?—I have very rarely seen them actually in use. I have made a casual inspection of the one in our hospital department and I found it in a very neglected condition, obviously it had not been used recently then. That was in the summer. I think it is very rarely used.

3355. Are there many cases that come in where First Aid has been rendered?—I should think that the number is really very small.

3356. Have you had cases in which it has been used wrongly?—Yes, I have mentioned a case of that kind.

3357. You have had some personal experience, you say, of First Aid rendered by the police. What do you say as to that?—As a rule I think that their work is very well done, but they make serious mistakes sometimes, and I think that they do not do as much as they might; in fact, I think that they usually exhibit a desire to get the patient up to the hospital as quickly as possible without doing anything further. I do not think that they often arrive at a satisfactory conclusion as to what is the matter with the patient.

3358. Take the case of a man with a broken limb, for instance, do they attempt to do anything in such a case?—They do occasionally; but I should say that in the majority of instances they are satisfied with having arrived at the conclusion that there is a fractured leg, and they do not find out where it is broken, in a large number of cases.

3359. What would you suggest? Do you think they are capable of doing more in that way?—I think that they certainly would be capable of doing more.

3360. I see you speak of their treatment of compound fractures?—Yes, as a rule a compound fracture receives more attention, of course, because they see that the patient is losing blood, and they see the serious condition.

3361. Then you say that only a small percentage of cases are brought up in an ambulance, that many come in cabs, and a large number in the nearest available vehicle, and you speak of one special case of compound fracture of the femur which was brought in a cart, the dirty condition of which contaminated the wound and largely contributed to the fatal result of the injury?—Yes, that happens to be one example that occurred in the summer.

3362. Your evidence rather goes to show that there is a good deal of room for improvement?—Yes. I think so certainly.

3363. Supposing the police were more careful in bringing cases in the ambulance which is available now, is that all that is wanted, or do you think that you want a better kind of ambulance?—I think you want a better kind of ambulance, because it is impossible to make any examination of the patients in the present type of ambulance, only a hand litter; they cannot be got at, and probably the seat of the accident cannot be got at, whereas, if you had a larger ambulance, it would be possible to make some examination of the patient.

3364. Have you had any experience at all of the working of the motor ambulance in the City?—No, that does not come to us.

3365. Have you ever had people brought in an ambulance belonging to the Metropolitan Asylums Board?—Yes, a few; but as a rule those are not accident cases; they are mostly cases of illness or disease, from the patients' own homes.

3366. Then you have something to say about the conveyance of patients who are seriously ill from their homes to hospital?—I think that is a point of very great importance. If people are able to afford it, of course now one always tells them that they can get the patient brought up by the Metropolitan Asylums Board; it costs about 5s., I believe, for an average distance. In connection with that, I mention two cases which I took special note of two or three months ago. In one case the friends of a man came up one afternoon about four o'clock and told me the condition of the patient, and they brought up a letter from the doctor. I said that of course I would take him in immediately he was brought up to hospital, but I had no means of conveyance, and they were not able to get him up to hospital until about mid-day of the following day. That in his case was a very serious thing, because he was very seriously ill, and I think it prejudiced the course of his case very much. Just about the same time there was another case of a less serious nature really, but one in which it was necessary to bring up the patient as soon as possible. In that case the patient was brought up from Dulwich, which is some distance away from St. Thomas's, in a Metropolitan Asylums Board ambulance, and was admitted to the hospital within three hours

of their asking me whether I could take her in. I think that is rather an important contrast. That three hours included the friends going home and communicating with the Metropolitan Asylums Board, and doing the double journey; and probably their method was not very speedy.

3367. That points to the desirability of there being some improvement in the rapid removal of patients from their homes to the hospital?—Yes, there should be some public method I think.

3368. Then you are in favour, as I understand, if it were found to be possible, of an improved type of rapid ambulance?—Yes, certainly.

3369. There are not many cases, I suppose, which could really be treated to any great extent before they arrive at the hospital? Do you consider it essential to send a medical man or a surgeon with the ambulance?—I think that is the ideal state of affairs, but I do not think that it is absolutely essential.

3370. We have had many witnesses speaking on that question; I do not think it is necessary to go into detail about it now. How far do you think the police can properly do more than they do now; do you think they can be trained to dress a wound or stop hæmorrhage?—Yes, I think undoubtedly that they could be trained to do more than they do now; because one sometimes sees cases which have been very well managed, and at other times cases that have not, but all brought up by the police.

3371. You say that you find considerable inequality in the way in which the cases are handled by the police?—Certainly, but as a general rule I should say that they bring the cases up with the least possible delay, and that is their principal consideration, I think.

3372. You say that one of the greatest troubles with regard to accidents and hospital work is the attendance of house surgeons which is required, often at most inconvenient times, at coroners' and other courts, and if doctors were employed with these ambulances, to requisition their attendance at courts would greatly disturb the working of an efficient ambulance system. I am afraid that if doctors were sent, you would not be able to evade their being summoned as witnesses at coroners' inquests and so on?—I think that would be a very great source of trouble. It interferes very much with hospital work, and would interfere still more with an ambulance service.

By Sir William Collins.

3373. You were going to mention, I think, a case in which you were not satisfied with the mode in which a particular patient had been dealt with. I do not think you did mention it?—It was that case of a compound fracture of the femur, where the wound had been considerably soiled, owing to its being brought up in a very unsatisfactory manner in a dirty cart, and the patient ultimately died, and it was considered undoubtedly that the case was prejudiced very much by the way in which it was brought up.

3374. It was not a police case?—No, it was not.

3375. But in regard to police cases, were you not going to mention some instance in which you were not satisfied?—There is one case which I have mentioned in my *précis*, the case of a ruptured varicose vein.

3376. What happened in that case?—There the policeman had committed the classical error of applying the tourniquet above the bleeding point, not recognising the difference between arterial and venous bleeding.

3377. Was the tourniquet supplied to the police in that case?—I do not think it was any particular form of tourniquet; it was probably a handkerchief.

3378. Do you think that a policeman should be trusted to apply a tourniquet? It has been suggested by one witness that a form of brace should be used by every policeman, so that the elastic brace could be utilised as a tourniquet. What do you say in regard to that?—If the policeman is capable of differentiating between arterial and venous hæmorrhage, he might be allowed the use of the tourniquet.

3379. Is that a big "if"?—I do not think so.

3380. You think that the average constable might be educated up to that?—Yes; but he requires more education than he possesses at present. I mentioned that case because it just happened a few months ago; but, of course, it is of very rare occurrence. I do not think the police would often make that mistake.

By the Chairman.

3381. Is there anything else that you want to tell us?—No, I do not think there is anything further that I wish to say.

THIRTEENTH DAY.

Tuesday, 3rd March, 1908.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Honourable The EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*.)

Mr. CLINTON T. DENT, F.R.C.S., M.C. (Hon.) Cantab., called in and examined.

By the Chairman.

3382. You are a Fellow of the Royal College of Surgeons of England?—Yes, and also a Master of Surgery of the University of Cambridge. I have been on the surgical staff of St. George's Hospital for 27½ years and Chief Surgeon of the Metropolitan Police since July, 1904.

3383. As Chief Surgeon of the Metropolitan Police, perhaps you would inform us on one or two points as to the organisation of the Metropolitan Police. There are a large number of Divisional Surgeons?—Yes, about 176.

3384. Attached to the various divisions?—Attached to the various divisions.

3385. And you are practically superintendent of them; you superintend their work generally?—Yes.

3386. You wish to give evidence on four points? The first is as to the nature, value and practical working of the instruction in First Aid given to the Metropolitan Police; the second is on the ambulance service as at present in use by the police; the third is on the general question of a rapid ambulance service in the Metropolitan Police area, based mainly on your experience as a hospital surgeon; and the fourth is on certain cases which have been already mentioned in evidence before the Committee?—Yes.

3387. Let us take the first of those—as to the instruction in First Aid which all police receive?—It is implied in some of the answers to questions, for instance 1402, 2448 and 2471, that some instruction in First Aid is not made compulsory on all the police. This is inaccurate. The police are not compelled to attend the advanced classes, but they are encouraged to do so; but every recruit receives instruction in First Aid, special attention being paid to stretcher drill and moving of patients. I have occasionally given these primary courses of lectures and demonstrations to the recruits. The instruction is, however, usually given by one of the Divisional Surgeons, who has a long experience in the work, and I am in frequent communication with him as to the improvement of details. I frequently go down on the last day of the course and test the knowledge of the recruits.

3388. Do I correctly understand that this earliest instruction which every recruit receives is given entirely by a Divisional Surgeon?—By one of them—by a selected one.

3389. They do not go to the County Council classes or the St. John Ambulance classes?—No; this only relates to the work done in the preparatory class of the candidate section. Every recruit must go through it.

3390. Not before they are admitted to the force?—Before they, properly speaking, join the police they go into the class and are grounded in the elementary duties of police officers, including First Aid.

3391. Then so far as it goes, though of course I do not say that if a man was not proficient in this it would exclude him from the force, it would be one of the matters taken into consideration as to the question of his becoming a police constable at all?—Yes, I refer to that directly. I have been most favourably impressed by the keenness and intelligence displayed by the recruits generally. I doubt if there is any part of their duties that they pay more attention to or pick up more quickly, for the factor of competition comes in from the first.

3392. What do you mean by the factor of competition?—All the recruits are in one large class and there is a sort of competition between them; each wants to impress the sergeant-instructor, the chief inspector, the divisional surgeon-instructor or myself, if I am there, with his ability. I should like to cite just one example very briefly. The last time I went down at the concluding day of the course, when they are put through their facings, I picked out a man at haphazard and I cited an imaginary ease to which he had been called. One of the recruits, acting as a model, was lying on the floor wrapped in a blanket and I said, "Now supposing this man has accidentally stabbed himself with a pen-knife here—and I pointed to the knee region—what would you do in such a case?" The answer was that he would regard it as a serious injury. I said, "Why?" The answer was that the knife might have gone between the bones of the knee; and I said: "Why should this be serious?" Well, he said, he thought it was serious. And this was a very good answer. The point was, of course, that the man might have got a wound in the knee joint, which appears to be a somewhat trivial affair but is a most serious thing, more serious than a fractured thigh. That was a very good answer that he gave, and it was on a point that I do not think is even alluded to in any of the ordinary courses of First Aid. Further, the man said that he would put the limb up on a back splint and convey the man to hospital. I should like, however, to see further measures taken to ensure that more police attend the advanced instruction in First Aid. By advanced instruction I imply instruction beyond what is given in the preparatory class in the Section House, such as the County Council course of advanced lectures, or the St. John Ambulance Association lectures. I am of opinion at the same time that this advanced instruction can be easily carried too far, and that it is often carried too far for practical purposes as regards the police. Personally, I should be glad to see the whole instruction of the police in First Aid entirely in our own hands. I should be in favour of modifying the syllabus at present employed by the instructors under the London County Council and the St. John Ambulance Association in the direction of making it more practical. The lifting and moving of the patient and transport generally should receive more attention than it appears to at present. I think, too, that in the matter of dealing with hæmorrhage the instruction should be more practical. Far too much stress is laid upon the application of the tourniquet, and far too little stress is laid on the fact that almost any hæmorrhage that can be dealt with at all by First Aid can be effectively controlled by simple pressure on the bleeding spot. It would be safer, for example, in the case of a cut artery, such as in the wrist or hand, to make local pressure than to apply a tourniquet to the arm; it is by no means an easy thing to apply a tourniquet properly, and if it is not properly applied it may do more harm than good. Moreover, a tourniquet is an extremely painful means of restraining hæmorrhage. I think it is scarcely going too far to say that a tourniquet should only be applied by a medical man.

3393. Would you make that an instruction to the police?—Tourniquets are mentioned, and the way of applying them is shown. My advice in the course of lectures, if I give it, or to the Divisional Surgeon who gives it, is to lay stress on that great fact that any hæmorrhage that can be controlled by First Aid (I would exclude, of course, hæmorrhage such as that connected with parturition) can

Mr. Clinton Dent.

be controlled by pressure until the medical man comes, or until the patient is got to the hospital, almost always. That is the nature of the instruction I give.

3394. Then, as I understand, with regard to the nature of the instruction, you would at all events keep what you may call the first stage of instruction in the hands of the police Divisional Surgeons?—Yes, as it is done now.

3395. That is the case now, is it?—Yes; I am responsible for it. I depute the actual giving of the instruction to an experienced Divisional Surgeon.

3396. Do you regard the instruction which ought to be given to the police for this special purpose, namely, dealing with these accidents under circumstances of great emergency in many cases, as a matter to be dealt with specially with regard to the special conditions under which the police have to work, rather than as part of a more general system that might be given to classes of a more general character? I mean to say, do you think the police instruction ought to be special in any way, or merely part of the ordinary instruction?—As regards this preliminary instruction, that is very much the same as would be given in any other elementary course of First Aid; but it is special in this sense, that the men are instructed to work together for the lifting and transport of patients. Yes, I think probably the tendency of this preliminary course is to differ a little from that which would be given in the ordinary class to those who knew nothing about First Aid.

3397. May it not also be rather special in this way—perhaps that is the subject you are coming to next—that is to say, assuming that you have a choice of different modes of conveying the patient to the hospital, a horse ambulance, a motor ambulance, a hand ambulance, and so on, should not the police instruction be rather special as regards that?—A little. I shall have something to say about that, with regard to some little books, later on.

3398. Then with regard to the syllabus which you spoke of, your attention no doubt has been directed to the memorandum which Mr. Bryant furnished, printed at the end of his evidence, in which he gives an outline of different lectures?—Yes.

3399. Do you generally agree with that?—I think so. It does not appear to me to differ from any other syllabus of the same kind, materially. My criticism on it would be that there is a little too much lecture and not quite enough practical demonstration. The recruits, at any rate, I do not think learn very much by the formal lecture. They want a little more demonstration.

3400. You would keep the advanced stage in the hands of the police as well?—I should like, for many reasons, to see it in the hands of the police; but it would be a costly business. I am not questioning at all the excellent nature of the instruction given by the County Council instructors; I think it is very good.

3401. That rather returns to the question I asked just now, whether the duties of the police really require them to have any special instructions?—I think so, with regard to transport and so forth and the lifting.

3402. Will you go on to the next point, the value of instruction in First Aid?—As regards the value of instruction in First Aid, in my opinion practically every police-officer in the Force is capable of rendering intelligent First Aid in ordinary cases of emergency. The consciousness that at any moment while he is on duty, or for that matter when he is off duty, he may be confronted with an emergency of this nature, tends to keep him up to the mark. Every constable carries with him at all times two little books, which I hand in, one is called "Duty Hints," and the other "A Pocket Directory." (*Handing in the same.*) On page 4 of "Duty Hints" is a summary of the action to be taken in the case of accidents to persons in the streets, and on page 37 and the following pages of the Pocket Directory are brief notes of first help to the wounded. Pages 21, 31 and 36 are memoranda about the ambulances, and on pages 26 and 29 is a list of hospitals and infirmaries which receive cases of injury or illness.

I have made inquiries of all the Divisional Surgeons on various points dealing with cases of street accidents and illness, and I now put in a summary of the answers which I have received. (*Handing in the same, which are printed in Appendix XV.*) There are about 176 Divisional Surgeons, and it seemed to me that they were men thoroughly well qualified from practical experience to furnish testimony of value on the points raised. I have received answers from 133 of the Divisional Surgeons—at least I have received answers from more but only 133 have been summarised; the others came in too late. I have, as regards the answers to some questions, divided

the Divisional Surgeons into two classes: those holding appointments in the country districts; and those in the town area. I should like to refer first to the answers to questions 3, 4 and 5.

3403. If I may interrupt for a moment, I see it is stated that horse ambulances are already in use at Ilford, Barking and Barnes?—I understand that those have been provided by some philanthropic persons; they are private ambulances placed at the disposal of the police in those particular districts. So far as I understand it, those ambulances are given much in the same way that lifeboats are often built and presented, and used by the police in the same way that our old horse ambulances were.

I asked the Divisional Surgeons if they would let me have an answer to these questions: (3) Is it your experience that the Metropolitan Police generally show themselves intelligent and efficient in rendering First Aid? (4) Is it your experience that there is any marked distinction in rendering First Aid between police who hold certificates or medallions and police who do not? (5) Is it your experience that the police show generally good judgment in (a) choice of means of transport to the nearest surgery or hospital, and (b) deciding when to summon a medical man? With regard to the fourth question whether there is any marked distinction in rendering First Aid between police who hold certificates or medallions and police who do not, the information is not as full as I could have wished. Fifty-three of them answer "yes" to that—that there is a marked distinction; 33 answer "no," that is to say, that they do not see that the police who have been through the advanced instruction are much better than those who have not; and 37 have never paid any particular attention whether the men hold certificates or medallions or not; but I think the uncertainty of the 37 really furnishes evidence that the police generally are intelligent and efficient in the way they render First Aid.

3404. Just before we leave that, take the case of an ordinary street accident; what would the Divisional Surgeon see of it? He might see nothing of it?—He might see nothing at all.

3405. He is not called in as a matter of course?—No.

3406. Thus what I want to know is, what is their experience derived from? We know that the police are told to summon a doctor in doubtful cases. Do they summon the Divisional Surgeon often?—Yes, they call the Divisional Surgeon for choice; but they call the nearest medical man.

3407. In the ordinary run of accident cases, I should have thought the Divisional Surgeon would not have seen them?—If a case goes to the station he would see it. If it goes to the police station he would be called to it. I do not want to magnify the value of the testimony, still the Divisional Surgeons are perpetually brought into contact with the matter and know the way the police behave. Their evidence seemed to me to be of value. I do not say it settles the point.

3408. I suppose there are a good many cases brought into the station of persons injured in street rows, and things of that sort, which also require First Aid treatment, although they do not fall exactly under the category of accidents?—Truly.

3409. When a man is not only injured, but is also brought to the station in the ordinary course under arrest, then the Divisional Surgeon would see him, of course?—He would be called to the case. I think that as a body of medical men they see more than anybody else I could think of.

3410. They see under rather different circumstances a rather different class of cases to what the hospital surgeon would see, I suppose?—That is true. They seldom see a case that goes to the hospital or infirmary; but they are called more frequently than any others to cases in the streets.

3411. In the ordinary rough and tumble working of the police, they would see a great deal more?—Yes.

3412. And that would enable them to judge, I suppose, how far the police were efficient in rendering First Aid?—I do not think the Divisional Surgeons are biased at all in favour of the police; they are very critical at times.

By the Earl of Stamford.

3413. If I might just ask about the work of the Divisional Surgeon. Where is he to be found—at the police station?—No, at his residence, which is known to all the men attached to that station.

Mr. Clinton Dent.

By the Chairman.

3414. And I suppose he is in direct telephone communication with the station?—In some cases. Usually he lives near the station, within half a mile generally. The Divisional Surgeon's name will occur first of all to the constables. There are one or two other points that will come up later. On certain points the Divisional Surgeon's answers are of great value, I think; but upon the question of the handling of street accidents and illness by the police, they are of more limited value necessarily. They speak from what experience they have had.

3415. Then you go on to the question of discretion?—A considerable amount of discretion is left to the police officer, and I think that is a very desirable thing. The efficiency of the police generally in First Aid, as in other matters, depends largely on developing their sense of individual responsibility. This is really a cardinal principle underlying the whole of the system of the organisation of the police. As regards the practical working, in my opinion it would be out of the question, as suggested by one witness, to reject men for the force because they could not pass an examination in rendering First Aid. Logically, an officer already in the force ought also to be ejected if he were found wanting. I think the witness hardly realised the close way in which the work of every officer is watched by his superiors, and if any blunder is committed, whether in First Aid or in any other branch of a police officer's duty, it is not likely to escape report. I myself should almost certainly have the matter referred to me for observation or comment, if any blunder of that sort were committed.

3416. Does that often occur?—No, I can hardly recall it at all; in fact, I cannot recall it. If a recruit is found so unintelligent that he cannot grasp the principles given in the elementary instruction, he is unlikely to join the force at all.

3417. You mean that he would be generally unfit?—Generally unfit. A certain number of recruits who are accepted as up to the physical standard and whose intelligence and education when first seen are apparently satisfactory, are not allowed to join the force if they are found, when in the preparatory class in the candidates section-house, to be lacking in intelligence. I may mention that more stress is now laid on the educational qualifications than was formerly the case, especially recently. A police officer has multifarious duties to discharge; he may be a most valuable man in the force though inferior to many of his comrades in the matter of First Aid. In the Metropolitan, in the accident area, which I think the Committee has taken to be about three miles round Charing Cross, he has usually little or no difficulty in summoning quickly a medical man, and he exercises his discretion in this direction very frequently. Sir Edward Henry, in answer to Question 12, mentioned the numbers of medical men that were called in.

3418. And we see that in the returns that we have, (*Appendix II., Tables (C.) and (D.)*). Is not some delay involved in summoning a medical man? That is one of the matters in which the policeman has to exercise his discretion, of course?—Yes. The "Duty Hints" I think, deals with that point; but, at any rate, in the Police Orders it is stated that "after taking prompt measures to get an ambulance and, where necessary, a doctor, the police should do all that lies in their power to afford relief and assistance in accordance with the principles of First Aid instruction, to prevent a crowd gathering round the injured person," &c. I think that is set out in "Duty Hints."

By Sir William Collins.

3419. Yes; under "Accidents to persons in streets," on page 3 of "Duty Hints for Constables and Section Sergeants," the first sub-head is "Obtain Medical Aid (Divisional Surgeon, if possible)."—Yes.

By the Chairman.

3420. Can you tell us how that works in practice: does it involve delay or do you have any cases where the policeman might or ought to have dealt with the matter himself, whereas summoning the doctor instead has caused any delay? Do you think it is really desirable that there should be a general rule laid down as to summoning a doctor?—I should be sorry to see a general rule laid down. I think it might often lead to undue delay and often lead to unnecessary distress to the injured person, who would be kept lying in the streets while the doctor was coming.

3421. The more intelligent the First Aid is that is rendered by the police, probably the less necessary it is to call in a medical man?—Yes. I would leave it to his discretion as regards summoning, even if the medical man did not arrive until the injured person had gone from the spot. If a fault is committed at all it is committed in the direction of safety. The answers of the Divisional Surgeons on that very point are significant.

3422. You say that if a fault is committed at all it is committed in the direction of safety—over-caution you mean?—Yes, over-caution. I think that is as it should be.

3423. That was what was rather occurring to my own mind, whether giving prominence to the instruction to call in a local doctor might, in certain cases, lead to rather a shifting of responsibility?—Yes. If a doctor comes in, of course the medical responsibility is shifted entirely to him.

3424. I see in 1906 the number of cases of street accidents within the cognizance of the Metropolitan Police, in which a doctor was called, was 1,551 out of a total number of 8,002 (rather less than 1 in 5), and the proportion in the number of cases of sudden illness seems to be larger—765 out of 2,853, that is more than 1 in 4?—Yes.

3425. So that it is frequently done?—Oh, yes, very frequently. That concludes all I have to say with regard to that first heading. It might interest the Committee to see these recruits on a Saturday at the Candidates' Section House in Regency Street, Vincent Square, where you could judge for yourselves of the training.

3426. What exactly should we see?—You would see the men at the conclusion of their training in elementary First Aid. They are still recruits; they have not joined, and you would see how much they have learned in their elementary course of lectures. Beyond that point in instruction they may never go with the present arrangements, because they may never take up the advanced instruction at all; but you would, I think, recognise that no police officer, however young, goes on to the streets without some knowledge. The courses are given every three weeks.

By Sir William Collins.

3427. Have you a syllabus of those courses?—No; they are worked on Dr. Collicie's syllabus, broadly.

3428. That is the County Council one?—Yes. (*See Appendix XIII.*)

By the Chairman.

3429. Does that conclude your first point altogether?—Yes.

3430. Now we go to the ambulance service at present in use by the police. First of all as to the police ambulances themselves, what have you to tell us?—Wheeled litters, I think, is the expression that has been used throughout for the police ambulances.

3431. Yes?—If I use the word ambulance I imply a horse or motor ambulance. In my opinion the wheeled litters of the Metropolitan Police are of a very good pattern; indeed, I prefer them to any other wheeled litters with which I am acquainted; but I think that certain improvements in detail can still be effected in the pattern of the wheeled litters. I have recently suggested two little modifications in details. I regard the wheeled litter as a suitable means of transport for the large majority of street accidents that require transport in that way at all; but I fully allow that an ambulance is a better and is a more comfortable and more secluded as well as a more rapid means of transport. I do not agree with most of the objections that have been urged against the use of the wheeled litter, and I do not think it is necessary to condemn it as absolutely as has been done by some witnesses who advocate another form of ambulance system. In my opinion the wheeled litter is a good means of transport, but the ambulance is decidedly a better means. It is stated that the wheeled litters are septic, and every care should be exercised to keep these wheeled litters as surgically clean as possible; but in the huge majority of cases the objection amounts to very little. When the patient is taken to a hospital he is put into a bed, and the bed is as clean as it can be made; but it is not aseptic, and no surgeon would allow any part of the bedding to touch a wound if he could possibly help it. Secondly, a wheeled litter is said to be slow. An ambulance, I think, may be regarded as on the whole about fully twice as rapid as a wheeled litter, as I judge by the experience of the City ambulance. That is of very great advantage. The

chief gain in rapidity is that the ambulance can be very much more quickly brought to the patient.

3432. That depends, of course, upon having a proper system of signalling?—Yes, I assume that. The rapidity of transport from the place where the patient is lying to the hospital is often less important. I think that in smoothness of transport, absence of vibration and jolting, there is little to choose between the two, for those in charge of a wheeled litter can choose their road more easily.

3433. As a matter of fact, is a wheeled litter generally, or often, run on the pavement itself?—I generally see it run on the road; but I daresay that when the roads are macadamised and very rough they will take it on the pavement. I do not know that I ever saw it going along the pavement. In many cases as, for example, in cases of poisoning, cut throat, or when the patient is from any cause unconscious, rapidity of transport to the hospital is of great importance, and there an ambulance is greatly superior to the wheeled litter.

3434. Should you put very high, as an advantage of the ambulance over the wheeled litter, the possibility of providing attendance on the way, in case, for instance, of any hæmorrhage that might occur?—Having somebody inside the ambulance with the patient is a decided advantage in a few cases.

3435. Then you would want more or less skilled attendants, would you not?—No, not necessarily. My concern in the wheeled litter is that the patient is out of sight very much, and that is why I want to introduce an observation hole in the back, so that he can be covered up and yet seen. At present he must either be exposed to the public or hidden from the view of everybody altogether. That I never feel can be very safe. It makes me anxious.

By Sir William Collins.

3436. Is treatment *en route* on a wheeled litter possible?—No, practically not; but if a person, for instance, in a concussion case were put in a wheeled litter and he was seen to be lying with his head not turned to one side, his head could be turned, and anything like that could be done. Of course the ambulance could be stopped and a splint adjusted or something made more comfortable. That would hardly imply treatment *en route*.

The objections urged with regard to the jeering crowds and so forth who accompany a wheeled litter, I do not think deserve much consideration. A crowd will follow wheeled litter when it conveys a violent or hysterical person; but in my experience the only crowd that collects is when the patient is being transferred from the street into the hospital, so that when the wheeled litter can be conveyed within the hospital precincts before removal from the litter there is no objection on that score at all. A certain number of people always seem to collect when a patient is moved from any kind of conveyance, cab, litter or ambulance, into the hospital, but I think the crowd collects more from motives of curiosity or sympathy than with any view to derision. Last night I saw one of the police ambulances bring a patient up to St. George's Hospital. There was nobody accompanying the litter from motives of curiosity; it stopped in the roadway, the stretcher was lifted off with extraordinary despatch, and the patient was carried up into the hospital in a few seconds, but there was a crowd of 20 or 25 to see it done.

By the Chairman.

3437. No one following it up to the hospital?—No one at all. They seemed to spring out of the pavement. Wheeled litters are said to be objectionable because they may convey first a drunken, then a violent person, and then a case of accident or illness; but if wheeled litters were wholly abolished, I suppose that these persons would have to be conveyed in ambulances or in cabs. The testimony of the divisional surgeons is very strongly indeed in favour of not abolishing wheeled litters, but of supplementing them with ambulances, and with this view I am in agreement. You will notice that one of the divisional surgeons (I have since had another reply to the same effect) had occasion to bring a patient out of a wood. He got in through the wire fence without cutting the wire fence, and then he transported him, I think, across a field entirely on a wheeled litter. He could not have got a horse ambulance into the wood, and he certainly could not have got it through the wire fence, and the wheeled litter answered the purpose admirably. I have had another precisely similar instance reported to me since. This, of course, relates to country districts.

3438. Where, in other respects, there is a strong case for a horse or motor ambulance because of the great distances to be covered?—Yes; but there the two would have been very desirable—the wheeled litter to convey the patient out of the wood, or wherever it was, and a horse or motor ambulance to put him into at the end, to take him to the hospital. The number of cases in which an ambulance is really necessary is smaller than appears to be imagined.

3439. With regard to the question of the number of cases serious enough to require an ambulance, the test used and available in these returns is whether or not the patient was detained in the hospital?—I have collected some figures on the same line, because it seems to me that the advocates of an exclusive ambulance system speak as if all injuries occurring in the streets were of a very serious nature—all broken legs or something of that sort. I have tabulated all the cases for three months that applied at the Casualty Department of St. George's Hospital. Counting males and females together there were about, in round numbers, 4,800; and of these, 852 might be regarded as street accidents. I do not say that they all occurred in the streets—I have no record of that—22 per cent. might have required an ambulance, and in this number I include probably a good many cases which might have come up equally well and safely without an ambulance. That is only a very rough estimate indeed; my idea was to see how many cases might with advantage have come up in an ambulance. I might mention a case, similar to one that was mentioned as having been conveyed in the City ambulance to St. Bartholomew's Hospital, of a man who had fallen down and broken his kneecaps, I think on both sides; Mr. Bowlby mentioned it.

3440. Sir William Church mentioned it here?—Yes, Sir William Church mentioned it, too. One would have said in such a case as that—I should have answered myself if you had asked me—that a fractured patella case certainly ought to have gone in an ambulance, and that great harm might have come if the man had been conveyed in any other way than lying down. I have in the hospital at this moment a man who broke his patella in the City going down to the Tube Station at the Bank. He fell and injured his knee on the steps. He went down the steps, he took his ticket, he went down in the lift, he was conveyed to the Marble Arch Station, he walked up the flight of stairs leading to the passage going to the lift, he walked across to the Brompton Road, where he was in business, and after an hour of work his knee was painful, and he was recommended to come to St. George's Hospital. He walked there and he walked up the steps, and he had got a broken patella. I cannot honestly say that I think that any harm was done to the broken kneecap by all that exercise.

By Sir William Collins.

3441. Was it a complete transverse fracture?—A complete transverse fracture, with about an inch and a half of laceration of capsule on both sides. I wired the patella, so that I know the extent of the injury. A specially trained attendant may occasionally be an advantage, but I think myself that a trained attendant may very easily do more harm than good. I think it would be entirely wrong, for example, that the trained attendant should do what is favourably mentioned by one witness, and that is, reduce or try to reduce a dislocated shoulder. If, as is very likely, his manipulation failed, the patient would be subjected to very unnecessary pain. The reduction of a dislocation of the shoulder may be very simple, ridiculously simple, or it may be a very difficult and very prolonged proceeding.

By the Chairman.

3442. Are you going to refer again to the matter of a trained attendant?—I have not anything more to say directly about a trained attendant.

3443. That is a point upon which there is a great deal of diversity of opinion, apparently. In the first place, do you attach much importance to the police constable who has seen the accident, or got first-hand information about the accident, going to the hospital?—Yes, I think he must do so, not solely from the medical point of view, but it is absolutely necessary that we should know what becomes of the man. The constable has various duties to perform with regard to any injury. He must know whether the individual is detained at the hospital, and so forth. He may have to communicate with the friends and carry out the instructions in Police Orders.

Mr. Clinton Dent.

3444. From a medical point of view, do you think it is of use that he should be able to give the best information as to how the accident took place, and so on?—I think from the medical point of view it is sometimes useful.

3445. Then assuming a horse ambulance service to be established, what is your view about the person who ought to be sent with the ambulance, if any one? The Metropolitan Asylums Board, as I understand, merely send an unskilled person simply to assist in carrying or lifting the patient?—And a driver.

3446. Beside the driver?—Who is an unskilled person also?

3447. Yes?—I think the constable should go with the ambulance, and I think that he is capable.

3448. In the City the practice is to have picked constables. Is that, in your opinion, necessary or desirable?—That, I think, is possible in the City, and I think perhaps it is an advantage, you know your men; but I do not see how that could be done in the Metropolitan area.

3449. Because of the enormous number of the police and the difficulty of organisation; is that your objection?—Yes. I advocate the use of the Metropolitan Asylums Board's ambulances altogether. I do not think we could tell off specially trained constables to hang about at the stations where these ambulances are kept in case of a call.

3450. To your knowledge of the organisation of the Metropolitan Police, I suppose there would be considerable difficulty in telling off any very considerable number of men; it would require a considerable augmentation of the force to do that?—I think so. I think it would be wasting the men.

3451. You said just now that you were in favour of utilising the Metropolitan Asylums Board's ambulances. If that could be done, if I understand you rightly, you would have the ambulance come up and the police constable who was, so to speak, in charge of the accident, go with it?—Yes.

3452. That, you think, would be sufficient?—I think that would be sufficient, the hospital being in the accident area and very near. If the case is serious a medical man is called and the medical man would go with it if called. and if the case is not serious the constable can do it.

3453. Then under the conditions of London, I gather that you think it is quite necessary to keep before the mind of the police that it may be desirable to get medical assistance on the spot?—Decidedly.

3454. You would not dispense with that?—No; I would rather go in the other direction and encourage it still more.

3455. Your next point is with reference to diagnosis?—Everyone capable of rendering First Aid is capable also of forming an opinion as to the nature of the condition from which the person is suffering, and that is diagnosis. Whether he is a doctor or a trained attendant or a police officer who has only received elementary instruction in First Aid, he does make a diagnosis when he sees the injured person. But only a medical man should seek to verify his diagnosis by any examination or manipulation that might give pain or do harm. The police officer or trained attendant should always, for the safety of the patient, assume that the condition is really worse than it appears. If a fracture is suspected, he should consider the case to be one of fracture. If a person has any form of injury to the head he should consider it as possibly a grave case. It would be useless in my opinion for all the police to carry about with them antiseptic pads, as has been suggested. These pads may be of some value in war where the injuries that soldiers are likely to sustain on active service are nearly all wounds; but even in war, I think, with modern bullets, the value of these antiseptic pads has been greatly exaggerated. That was certainly my experience from what I saw in South Africa. Wheeled litters are now so numerous in the accident area that they can be quickly on the spot and they contain the surgical dressings which are necessary. I think, finally, that restoratives or stimulants should never be given by trained attendants, but only under the direction of a medical man. It was said by one witness that the giving of brandy in one case made a difference between life and death. The giving of stimulants does in certain cases make this difference, but it makes it in either direction. If a patient is very faint from loss of blood and you give him a quantity of stimulant, you may bring on the hæmorrhage again. I think that ought only to be given under the direction of a medical man. For that reason I was opposed to including stimulants or restoratives among

the dressings in the wheeled litter ambulances. On the general question of a rapid ambulance system in the Metropolitan Police area, based on my experience as a hospital surgeon, I am in favour of an ambulance system for the Metropolis supplementing the existing wheeled litters. The question of an ambulance service for street accidents and illnesses is, I think, inseparably bound up with the larger and still more important question of the conveyance of sick persons from their homes to hospitals or infirmaries, or *vice versa*. I think that the Committee has taken that view.

3456. We have taken the view generally that, although we have not been asked to report upon that particular part of the question, yet still the two things are so closely connected together that we ought not to exclude evidence about it?—I do not agree with Mr. Henry Morris's view that a separate ambulance system should be instituted for street accidents to be wholly under the police, for that would be an exceedingly costly method.

3457. That is rather what I meant by saying that I think the two things are closely connected together; that if one was simply going on the assumption that you might have one service for one and one for the other, you would be looking at the thing from a rather different point of view?—It would be enormously costly; to carry into effect Mr. Morris's scheme would necessitate a considerable augmentation of the police.

3458. Can you, as a matter of fact, draw a very definite line between street accidents and accidents which are not street accidents? You gave an instance just now of a man who broke his patella in what might be said to be a public place, but you may have accidents in warehouses and places of that sort which require prompt treatment just as much as an accident happening just outside the warehouse in the street?—I have always assumed that "street accident" is a somewhat general term.

3459. But, as a matter of fact, do the police ever deal themselves with an accident which occurs strictly in private premises?—I should think so.

3460. Supposing people come out of a private house and say, "Here is somebody with a broken leg, can you not let us have a police ambulance," for instance?—The police ambulance would certainly go there at once; it ought to do so, most certainly. And the building accidents, I suppose, may be taken to be in private places.

3461. Strictly speaking, they may be. It is, no doubt, very difficult to draw a line?—Very difficult indeed, but the police, I think, are instructed not to attempt to draw a line like that at all, but to render help whenever it is asked for. I cannot answer myself for that, but I should certainly imagine that to be the case. As I was saying, to carry into effect Mr. Morris's scheme would necessitate a considerable augmentation of the Force. It would be far more important to augment other branches of the Metropolitan Police than to institute a trained corps of ambulance attendants. Ex-policemen could not be utilised.

3462. I do not know whether you are sufficiently acquainted with the financial side of the matter to say whether Mr. Morris's estimate of £25,000 Police Fund surplus is at all correct?—I understand it is very far from being the case, and is due to confusion, which I think you suggested yourself, between two funds. That I learn from the Commissioner's secretary.

3463. Of course anyone looking at the accounts might see £25,000, or whatever sum the surplus is on the Metropolitan Police Fund, and forget that the Metropolitan Police Fund is really also responsible for any deficiency on the Pension Fund?—Yes, it makes the balance very much the other way.

Men who have served 25 years in the Force would not be available as trained attendants, I think they would not come forward for the purpose. Men who leave the Force after a short period have mostly been returned unfit for medical reasons. The men who have either resigned or been dismissed would either be not available, or certainly would be unsuitable as specially trained attendants. The specially trained officers suggested in Mr. Morris's scheme would, for the most part, be too valuable to be used solely for ambulance purposes. I am in favour of the necessary legislation to extend the ambulance service of the Metropolitan Asylums Board and to use it for street accidents. A great advantage is that it could be gradually developed; whereas if the police take it in hand, they would have to do it from the first on a large scale. But the conveyance of sick persons from their homes should in no wise devolve on the police; and it is already admirably done by the Metropolitan

Asylums Board and other bodies. By that I mean the conveyance of a person who is lying ill in his home of enteric, or whatever the illness be, and desires to be got to a hospital.

3464. As you put it, as I understand, one of the advantages of utilising the Metropolitan Asylums Board ambulances for what is now police work, would be that their use might be extended to this other sort of case too?—Yes. To a limited extent they have been used already in cases of street accident and illness; and experience, I think, shows that the system has worked well and could with advantage be greatly developed. I would add that you could develop it gradually on existing lines. I agree generally with Sir William Church's remarks on that point. If it were decided to adopt the scheme suggested by Mr. Morris, I think it could be done by the police; but then the whole system should be exclusively in their own hands—the whole instruction and examination should be conducted by the Department. It would be very expensive, I think, and I am not in favour of it; but it could be done by them from the ranks of the divisional surgeons. I could get, as I have ascertained by that return, thoroughly good instructors.

The Receiver has asked me to communicate some figures about the cost of the ambulances, which have not been put in. A wheeled litter costs £16 5s., the splints and appliances, £1 2s. 6d.; the cost of a shelter for the same is £18 7s., making a total of £35 14s. 6d.

By Sir William Collins.

3465. Who is the maker of the ambulances?—I cannot say, but I will ascertain—and also who builds the shelters.

By the Chairman.

3466. Do you know the St. John Ambulance type of wheeled litter?—Yes. Whether they have put on anything very recently or not, I do not know—whether they have modified their pattern.

3467. The main difference between it and the police ambulance, I think, is that there is no third wheel; they have a canvas cover very much like the police one, and appear otherwise similar, so far as I saw? I am not quite sure about the point you mentioned about a footboard?—I think it would be an improvement. We are having it tried now, and having one made. The number of wheeled litters owned by the police is 276.

3468. That does not include the Bischoffsheim ones?—No, it does not include those: 192 of those owned by the police are located at police stations, 84 are in the streets in shelters. Of those 84 shelters, 6 have not been provided by the police—those at the Houses of Parliament, the Tate Gallery, the National Portrait Gallery, and three fire stations at Streatham, Beddington and Cheam have not been provided by the police. All additional wheeled litters will require shelters—that is to say, a shelter costing £18 7s. would have to be provided for every additional litter placed on the streets.

3469. Have you any information about the difficulty of getting sites for wheeled litters in places?—It is a difficult matter apparently, because you want sites in particular places.

3470. We heard about that from the Commissioner?—You have them on the map. The Receiver states that there is difficulty.

3471. That is what the Commissioner told us, too?—Yes; he does not approve of placing them at fire stations, on the ground that the wheeled litter would not be under the free control of the police, but you would have to get the key and so forth before it could be utilised. The Receiver has also given me the figures relating to the cost of a horse ambulance which has been alluded to which was hired at Islington for about three years. Call boxes were put up experimentally. The Commissioner alluded to that in his evidence. The annual cost of that horse ambulance tried at Islington, including the 10 call boxes, was £294.

3472. Did he give us the date of that?—The date is on the evidence, about 1893. He mentions it, I think you will find, with regard to the signalling part of the evidence.

By Sir William Collins.

3473. It is at Questions 36 and 37. It was a patrol wagon, apparently?—It was on the pattern of the patrol wagon at New York. It was the pattern recommended by Dr. Benjamin Howard. The difficulty, if a system of ambulances under the control of the police were instituted,

would not be in the direction of finding garage or stabling accommodation. The Receiver says that he could provide garage—he does not say stabling—in police stations.

By the Chairman.

3474. Does that conclude what you have to say on behalf of the Receiver?—Yes. I only want to mention in addition one or two cases which have been mentioned to the Committee of which I have now got the precise facts. Might I just mention first with regard to those three horse ambulances that have been often alluded to, that I do not know whether it is understood that they were never used for street accidents.

3475. I think that is clear from the Commissioner's evidence that they were never used for street accidents?—They were never used for street accidents or intended for the purpose, and we could not use them because we contracted for horses which were not available at very short notice.

By Sir William Collins.

3476. To what purpose were they put when they were in constant use as was stated?—For the conveyance of the police when sick, as I understand. I have only known them used for the conveyance of sick police. I have seen them used on two or three occasions for that purpose.

3477. In the memorandum put in on behalf of the police before the Committee upon the County Council Bill, it was stated that the police possessed three horse ambulances which, when not otherwise required, are available for this purpose and are in constant use. I understand since that they have been condemned and have now been destroyed?—That is so.

3478. But I never quite understood what was the use to which they were put if they were in constant use?—They were before my time a great deal, of course. I have seen them used, as I say, on two or three occasions for the conveyance of sick police to hospital.

3479. Then they had no relation to the question that we are now dealing with?—I think none whatever, because they were never used for street accidents. This is the passage that relates to it: "For 20 years this system administered by the police was the only service in London for the removal of non-infectious sick from their homes to the hospitals." That must relate to the three old horse ambulances that are now condemned; the constant use must have been for the conveyance of sick, and if persons applied to the police they could be utilised for that purpose. I only saw them when they were in a state of decay.

3480. They had no relation to the question of the provision of ambulances for street accidents?—None whatever.

By the Chairman.

3481. You were going to refer to some particular cases?—Yes; the first one is the Charing Cross disaster which happened on the 6th of December, 1905. The point with regard to that is to show how the wheeled litters could be utilised in a disaster which involved accident and injury to a great many persons. It was within a very short time, but I cannot say in the matter of minutes how long it was, that 800 police were on the spot, and there were 20 wheeled litters on the spot. That number could have been almost indefinitely increased gradually and, indeed, more ambulances were on the spot than were actually needed, because I take it that the patients could not be at once got at in a disaster of that nature; you could not pick them up as you might have picked them up on a field of battle and put them in ambulances. They were all, I think, taken to Charing Cross Hospital. Four dead bodies were taken from the ruins; thirty persons were taken to hospital, two of whom shortly afterwards died. Seven were detained and twenty-one were attended to and sent to their own homes; eighteen of the above persons were conveyed on ambulances, on wheeled litters that is to say, six by cabs and six by private persons and railway officials. (*See also Appendix XVII.*)

3482. Were the railway ambulances used?—The Report does not state positively. I think probably the whole of the 18 were conveyed on the wheeled litters which were all there ready to hand, because they were conveyed by the police.

By Sir William Collins.

3483. Six were taken by cabs?—Six were taken by cabs and six by private persons and railway officials; it is not stated in what manner.

Mr. Clinton Dent.

3484. So that even when there was an ample supply of litters, cabs were used in six cases?—Yes, cabs were used. They could not prevent the people going in cabs if they chose.

3485. But were they taken by the police or not in cabs?—That is not stated. The Report says, "Eighteen were conveyed on ambulances and six by cabs," but whether the police put them into cabs or not I cannot say.

3486. Then one-fourth of the whole number went in cabs?—Yes.

By the Chairman.

3487. You say that seven were detained in hospital?—Yes, seven were detained in hospital; twenty-one were attended to and sent to their homes. That is a copy of the report from the Occurrence Book evidently (*handing in the same, which is printed in Appendix XVII.*).

3488. Is that all about the Charing Cross accident?—Yes.

3489. Now let us have the next case?—I have some particulars about the Highgate disaster and some particulars about the accident at Blackfriars Bridge, but I do not think they are particularly to the point. A case which I desire to mention also was of a very different nature—it is referred to in Question 165, in a letter from the Medical Officer of Health for the Borough of Kensington. I have ascertained the particulars of that case. What seems to have happened was this. The woman in question left her home with a view to going into a lying-in hospital and travelled by the first tram car running from Southall accompanied by her daughter. She was in labour when she left home. Matters appear to have come to a crisis in the tram car; thereupon the conductor stopped the car, asked the passengers to get out and called a medical man at about 5.30 a.m. When the medical man arrived the woman was still in labour, and on the advice of the doctor the car travelled slowly to Shepherd's Bush and back to Wood Lane to prevent intrusion from the public; the medical man also said that it would not be safe to take the woman on at that stage, and had any vehicle been present the doctor would not have advised her to proceed under the circumstances. The woman was detained in the tram car by the direction of the medical gentleman who was called in, who considered it inadvisable that she should be removed to the hospital until the child had been born and some short time had elapsed to enable her to recover her strength. Everything that the police did in the case was done by the doctor's direction. No search was made by the police for a cab until one was wanted, and it was ready when required. The letter gives a somewhat different version of the case. As a matter of fact it appears that the whole affair was conducted with very considerable tact according to this report. The car was kept running slowly up and down; people outside did not know what was going on and had no opportunity of looking in, and there was no question of scouring the neighbourhood in search of a cab, for the medical man would not have it.

By Sir William Collins.

3490. Then your report is in conflict to some extent with the report made by Dr. Dudfield to the Kensington Borough Council on that case?—Yes; it would appear from this report that he had been misinformed as to the facts. According to this report, of which I am giving you a copy, this happened in December, 1905 (*handing in a copy of the report*).

3491. Did you say that you have some details with regard to the Highgate tram accident, which was mentioned in evidence?—Yes.

3492. The Press stated at the time that the ambulances were quite insufficient to cope with the demand, and means of conveyance were improvised out of shutters and pieces of match-boarding?—Yes.

3493. Are you able to say whether that was so?—I have here a copy of the superintendent's report, June 23rd, 1906: "I beg to report that two men were killed on the spot and one died from his injuries on the following day. These were all at once conveyed in the same covered van to the Great Northern Hospital, about half a mile distant, accompanied by the police, and arrived there within 15 minutes of the accident. Eighteen persons more or less seriously injured were conveyed to the same hospital in cabs and vans, some accompanied by police, others by tramway officials and private individuals. The last of them reached there (the Great Northern Hospital) within about 30 minutes. Five persons walked, assisted by

police or private individuals, to doctors' surgeries in the vicinity. There were four hansom cabs on the standing at St. John's Road, practically on the spot, and several vans that happened to be standing close by were requisitioned, and no delay occurred in removing the injured persons to the hospital." The hospital was apparently about 10 minutes' walk away. "The ambulance from Upper Holloway Station was sent for, but by the time it arrived all the patients had been removed."

By the Chairman.

3494. That ambulance would be a wheeled litter?—The "ambulance from Upper Holloway Station" would be a wheeled litter. "Several police doctors, including divisional surgeons, when they heard of the accident, proceeded at once to assist the officials there in treating the injured." The report ends there (*handing in the same*).

3495. In that case there was no ambulance?—It might be desirable to make special inquiry on the point of the utilisation of shutters as stretchers and so forth.

3496. What hospital was that, did you say?—They all went to the Great Northern Hospital except those that went to doctors' surgeries close by.

By Sir William Collins.

3497. Sir Edward Henry said in regard to that case: "You see one ambulance will only convey a certain number of people, and you cannot keep an indefinite number of ambulances on the chance of some catastrophe like that happening." Do I rightly understand that in this case no ambulance was actually employed?—One wheeled litter appears to have been sent for from Upper Holloway Station.

3498. But it arrived too late, did it not?—It arrived too late, the patients were all gone. But they seem to have got to hospital very quickly—in 15 minutes—and the last injured person reached it in 30 minutes, the hospital, fortunately, being close by.

3499. The point is that they were promptly removed and arrived in cabs, vans, &c., and that the ambulance that was summoned did not reach there until after the patients had been taken away?—That is so. That would only have carried a single person. I can ascertain any particulars about it.

By the Chairman.

3500. I do not think we need trouble you any further about it?—I have some information with regard to one other case which is instructive, of a woman who has been mentioned already in Mr. Morris's evidence. I communicated the case to him from memory, and I did not know that he intended to mention it in his evidence at all. I think it is desirable to give the actual facts, though my memory appears to have been pretty correct.

3501. Could you give us the reference in Mr. Morris's evidence?—It was in answer to Sir William Collins about a case that occurred in Mile End New Town, where a very great crowd collected round the woman. It is at Question 3,143. What actually happened was this. The case occurred in December, 1905. The woman was passing along Chicksand Street, Mile End New Town, on her way to Whitechapel Infirmary, and she gave birth to a child on the footway at 8 p.m. The weather was extremely bad at the time, and there was either a heavy rain or sleet falling. The police sergeant at once called a medical man living near, and he attended with his assistant. It was the medical man who estimated the crowd as being between 500 and 600. There was only one constable on the spot, and he is reported to have done wonders single-handed in keeping back the crowd, but the woman appears to have been a little jostled by the crowd pressing forward. In that case I have communicated with the doctor, who has all the facts fresh in his mind, and he tells me that if an ambulance had been quickly on the spot, horse or motor ambulance, the woman could have been moved into it and the necessary attention to the woman and child given with far greater decency and with far less risk, and an ambulance would have been an immense advantage in that case from every point of view. No attendant, however highly trained, could, in the doctor's opinion, have dealt with the case, as there was considerable hemorrhage. An ambulance would have been a far better vehicle to have transported the woman to the infirmary after the child was delivered and the hemorrhage controlled. Another similar case happened in January of the present year, at 4.30 a.m., when the temperature was several degrees below freezing point. A woman was taken in

labour in the street, and a constable called a doctor who found the woman in the covered doorway of an hotel. The mother and child were subsequently placed on a police ambulance, a wheeled litter, and taken into the Sick Asylum, where the woman was admitted. In that case, if an ambulance had been on the spot, the doctor would not have moved the woman into it, he informs me; he would not even have carried her across the road into a lying-in hospital, supposing there had been one on the other side of the road, until he had completed what he had to do then and there. Therefore, in that case, an ambulance would only have been of use as the best means of conveyance subsequently, but could not have been used as the hospital brought to the patient. And the cases appear to be about equally divided where it could be used as a hospital and where it could not. I have collected a certain number of cases of the kind here, and those are two typical examples.

3502. Do you mean that even if an ambulance had been there it could not have been used as a "hospital brought to the patient"?—It could only have been used as a means of transport.

3503. You would still have had to do what it was necessary to do in the street?—Yes.

3504. Are there any other cases that you wish to call our attention to?—Only a few other cases of the same nature: in some of which the woman could have been moved, and in some not.

3505. And you have just given us a generalisation from those cases?—I have some like it, and some the other way.

3506. About half and half?—You will get cases, at any rate, of both kinds, where you may bring the ambulance, but you do not bring the hospital.

3507. Is there anything else you wish to say?—There was some question that was raised by Mr. Sydney Holland, at Nos. 2,615 to 2,617. At No. 2,615 he stated that he cannot imagine that the hospitals would refuse to take in any accident case. The Commissioner, I think, had cited cases where they had refused—he had a particular hospital in view in making the answers—and perhaps it would be desirable to hand that report to you. I do not know whether it is desirable to mention in evidence the name of the hospital or not.

By Sir William Collins.

3508. What does it purport to show?—The point is that hospitals do refuse to take in accidents, and in this one case not infrequently, and Mr. Sydney Holland's statement does not apply therefore to all hospitals, at any rate, within the Metropolis.

By the Chairman.

3509. We have had a good deal of evidence in detail about that from other hospitals. They say that it is very seldom done, but still at times they are unable to take in cases?—Here are the papers in question (*handing in the same*).

By Sir William Collins.

3510. Have you several cases in which that has occurred?—There are 45 cases, you see, in three years, of accidents taken to that hospital and not admitted.

By the Chairman.

3511. Is that St. George's Hospital?—No. We should do the same thing there that they would do at the London Hospital. We should not send away an accident case. You must find room for it. You must put up an extra bed or something. You cannot send a man from pillar to post.

By Sir William Collins.

3512. Without mentioning the name of the particular institution. I see in the Report handed to me that it is stated that difficulty has been frequently experienced by the police in the division in question in obtaining accommodation for street accident cases at the hospital through lack of accommodation there?—Yes, and one or two other hospitals have, I think, said the same thing—it is lack of accommodation. I put that in to show that the Commissioner was amply justified in his remarks.

By the Chairman.

3513. Is there anything else you wish to say in examination-in-chief?—No, I have nothing to add, I think.

By Sir William Collins.

3514. As regards First Aid, I understood you to say that more stress ought to be laid upon lifting and removing the patient than perhaps has been done in the past?—Yes, that is a very important matter, that of lifting a patient from a street roadway actually on to a stretcher.

3515. Should I correctly put your view if I were to say that First Aid should be directed rather to securing the safety and speed of transport of the injured person to hospital, than to making an accurate diagnosis and applying first dressing?—Yes.

3516. You think that there is danger in attempting too much in the way of instructing the constable in First Aid?—I do.

3517. And you think that First Aid instruction should be given, I understand, wholly by the police?—I should be rather in favour of that from my point of view.

3518. May I ask why it is not so given now?—I think it is largely a question of expense, and also of convenience, perhaps, that the men can get their instruction from the County Council and St. John Ambulance instructors nearer to their stations.

3519. There is nothing to preclude the police doing it, if they desire, is there? In fact, I think you told me they did some portion of it themselves?—We do all the elementary part.

3520. So that it is rather because they find it a matter of convenience to let other authorities do it, than because there is anything to preclude their doing it?—Yes, I think so. The question of having the instruction wholly in the hands of the police was raised some years ago, but the matter apparently dropped so far as I can gather from the papers, in the time of my predecessor.

3521. You drew attention to a little ambiguity attached to the use of the word "diagnosis" in the previous evidence. You said that any attempt to ascertain, however roughly, the nature of the accident might be to some extent described as diagnosis?—Yes, I think so.

3522. I notice that in Mr. Bryant's rules, which he drafted and submitted to the Committee, he said, "The constable is not called upon to diagnose the injury, but he is required to learn by inquiry, personal observation and examination, what part of the body has been involved, and if there is any wound." (*See Appendix XIV.*) That seems to imply that he is not called upon to diagnose, but that he is to make a diagnosis?—Yes, there seems to be some ambiguity in the use of the term.

3523. In the little book that you have handed in, entitled "Metropolitan Police Pocket Directory," I see on page 37 and the following pages certain instructions as to dealing with wounded and sick. May I ask whether you have had any hand in drawing this up?—No, only one paragraph was referred to me.

3524. Because I notice that in regard to hæmorrhage in the ham or back of knee-joint and in the front or back of leg, a suggestion of the use of the tourniquet is mentioned?—Yes.

3525. You rather deprecate that?—I rather deprecate that.

3526. On page 38 I see under the head of "Broken Bones," "Collar bone—place pad in armpit, bandage elbow to side, sling forearm." Do you approve of that?—I should leave out the pad in the armpit.

3527. And under general treatment, "Apoplexy—act on the bowels, apply wet cloths to the head, undo collar"?—Yes. "Undo collar and convey to hospital" I think I should say.

3528. "Bites of snakes, mad dogs—apply a ligature (a cord) on the side nearest the heart; suck the wound, scratch the edges with a penknife, and apply caustic or carbolic acid to the wound." Would you approve of that?—I think the whole of that instruction requires a little modifying; it struck me when I saw it.

3529. As Chief Surgeon to the police have you made any suggestions as to modifications of these instructions?—No, I am not sure. I think I shall do so.

3530. But have these been the result of medical advice or have they been drawn up independently?—I think they must have been taken from old instructions.

3531. Then I think there are instructions as to what to do in cases of poisoning, set out in parallel columns—the nature of the poison, the symptoms and the treatment, whether by emetics or otherwise. Do you consider that

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the treatment of poisoning should be part of the First Aid administered by the police?—No, I do not.

3532. Then in the other little book you handed in, entitled "Duty Hints for Constables and Section Sergeants," on page 3, under "Constables—accidents to persons in streets," is the following: "Obtain medical aid (divisional surgeon if possible). Render First Aid. Remove injured person to hospital or home, when practicable on ambulance. Give officer's name, number and station to hospital authorities. Acquaint friends by police telegraph, telephone or personally. Take full particulars of occurrence, including name and address of person causing, and witnesses, also their statements. If witnessed give number to injured person. If fatal take person causing to station. Cab may be hired if necessary." May I ask whether you had anything to do with drawing up those instructions?—No, nothing at all.

3533. Do not you think that the multiplicity of those directions may prove somewhat embarrassing even to an intelligent constable?—Not if they are given in order.

3534. But let us take the case of a man run over at Oxford Circus by a motor car. What steps do you think should be taken, and in what order, by an intelligent constable? Should he at once seek medical aid there, or should he try to obtain the divisional surgeon if possible?—The nearest medical man in the case of a very severe injury like that, I should think.

3535. But in the case I have cited would it be desirable to wait to obtain a medical man before rendering First Aid, or before removing the injured person to hospital?—I think that would depend largely on where the injury was, would it not; whether he was run over the leg, for instance, or over the body.

3536. I was merely putting it to you whether the way in which these directions or hints to constables are set out may not be capable of simplification, whether the very variety of the suggestions may not prove embarrassing to the constable?—No, I think not. I think it suggests the various alternatives that he should have in his mind, and he may adopt the one which in his discretion appears best to meet the case. I have not the paragraph quite in my mind.

3537. Here it is (*handing the same to the Witness*)?—I do not think it ought to confuse him at all. There are two separate things roundly put together which he is to attend to in the case of accident. "Obtain medical aid. Render First Aid. Remove injured person. Cab may be hired if necessary." The rest relates to his duty as a constable rather than to his business as a renderer of First Aid.

3538. You are quite satisfied with those directions?—I think so.

3539. You notice the last of them is, "Cab may be hired if necessary"?—Yes.

3540. I asked Sir Edward Henry in regard to the use of cabs, and he told me that he thought the medical instructors teach their pupils that in a case of injury to the lower limbs, or in case of insensibility, they should not be taken in a cab?—Yes.

3541. And it would be a matter for the instructors really to rub well into the constable's mind that he must never take a case of injury to the lower limbs in a cab?—Yes.

3542. I asked him: "Do you think that that instruction not to convey a person suffering from injury to the lower extremities to the hospital in a cab is uniformly acted upon?" and he said: "I hope so. I have not had any communications to the contrary from hospitals, and I should think they ought to have let us know if any cases conveyed by the police have been improperly conveyed in a cab instead of in an ambulance." I want to put to you whether the expression "Cab may be hired if necessary" in connection with the directions or hints to constables in cases of accidents to persons in the streets may not raise the presumption in the mind of the constable that he should employ a cab?—I think not, because in the Police Orders, in the last paragraph, you see it is specifically stated there that in injuries to the lower limbs, &c., a cab is an unsuitable means of transport. (*Handing in the Police Orders, which are printed in Appendix IV.*)

3543. This Order is dated the 4th of February, 1908?—Yes.

3544. Do you know whether this has been revised since we considered this matter with the Commissioner?—I think that paragraph is new; that I cannot say for certain. I think it is.

3545. For instance, at Question 194, I asked Sir Edward Henry as to certain regulations which were then in existence, and apparently there was one which stated "where necessary, expenses for cab hire will be allowed." I asked him "Do you think that tends to suggest that a cab should be used?" and his reply was "It is intended to suggest that they should use a cab to send for an ambulance." I want to get your opinion as a hospital surgeon as to whether it is desirable in any case to take severe injuries to the lower extremities to hospital in a cab?—No; I think I may put it generally that it is not.

3546. Can you tell me the date of these two little books that you have handed in? When were they prepared?—I think they are also recent as regards the edition.

3547. I see the date on the last page of printing is 1907. I do not know whether it was the first edition?—I think in the form of little blue books they are novel. There used to be what was called the White Book, which was rather inconvenient and bulky for the men to carry about. That book has been divided into two and condensed, but how far it has been altered I cannot say.

3548. In this form they are new?—In that very portable form they are new.

3549. As regards the use of cabs in taking patients to hospitals, I see that from St. George's Hospital, with which you are connected, I think, we have had a report (*Appendix I., p. 66*) covering the period from April 29th to June 3rd, 1907, which deals with 18 patients, and I see that of those 18, 6 appear to have been taken to hospital in cabs, some of them by Metropolitan Police, and 4 of them appear to have been cases of severe fracture of the leg?—That is very undesirable.

3550. Apparently one-third of all the cases taken to St. George's Hospital, of which we have record during that period, were taken to the hospital in cabs, and four of the six were severe fractures of the leg. Does that disclose a state of things that is capable of considerable improvement in your opinion?—I think so. But I do not know whether the injured persons chose cabs or not as a means of conveyance, or whether they were put into them.

3551. Apparently from this Return, at any rate, two cases were taken in cabs by the Metropolitan Police?—Does it follow that they were put into them; that the cab was chosen as the means of conveyance by the police?

3552. I merely ask you whether, having given your opinion that it is undesirable that cases of fractured legs should be conveyed to hospital in cabs, you do not think that this Return which discloses the fact that some 6 out of 18 cases of accident taken to your hospital were conveyed in cabs, and 4 of them were severe fractures of the leg, does not disclose a state of things capable of considerable improvement?—Yes, undoubtedly. I do not think they ought to have been taken in cabs with injuries to the lower extremities, as a rule.

3553. Then as regards the opinion expressed as to the treatment by the person, whoever it may have been, who prepared this Return, in column 10, noting the requirements as regards the conveyance, I see that in 6 out of the 18 cases it is mentioned that an ambulance would have been preferable—one-third of the whole number?—Yes.

3554. And in three cases it is specially specified that a rapid ambulance would have been preferable?—Were those fractures where rapid ambulances would have been preferable?

3555. So far as I gather from the Return, a rapid ambulance was recommended in the case of "abdominal injury, run over (severe)" in the case of "fractured pelvis (severe)" and in the case of "fractured thigh (severe)"?—I cannot tell what the cases were, but I am not sure that I should agree that it is desirable to convey a person very rapidly with either a fractured pelvis or a fractured femur.

3556. I thought possibly your attention might have been called to these cases as they occurred at the hospital with which you are connected?—Not particularly.

3557. Then in the summary of reports received from 133 divisional surgeons as to the Metropolitan Police Ambulance system that you have handed in (*Appendix XV.*) I see in answer to the first question "For dealing with street accidents or cases of sudden illness occurring in the streets would it, in your opinion, be advantageous to institute a system of horse or motor ambulances?" the reply of 34 out of the 38 "town" Divisional Surgeons, and 76 out of the 95 "country" Divisional Surgeons was in the affirmative—total 110 in the affirmative out of the 133?—Yes.

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3558. So that apparently the great majority of the Divisional Surgeons think that a horse or motor ambulance would be advantageous?—Yes; I agree with them.

3559. Is there anything to prevent the Metropolitan Police, if they so choose at the present time, instituting a horse or motor ambulance in London?—Lack of funds only I should say.

3560. They are not barred, as the County Council and the Asylums Board are barred, by want of statutory powers, are they?—I think not.

3561. Have you as chief surgeon recommended the institution of horsed or motor ambulances by the police in London?—Not in an official recommendation. I have spoken in favour of it.

3562. I remember in 1901, when the County Council approached the then Commissioner of Police, the Council was informed that the police were not of opinion that the case for rapid ambulances had been made out?—The Commissioner is still of that opinion as regards the town area.

3563. Have you seen anything of the working of the City ambulance?—No, I have not. I only know by the papers.

3564. Then I will not ask you any questions about it. May I ask why you recommend that the Metropolitan Asylums Board should be the authority for dealing with rapid ambulances?—Because it appears to me that their service has worked so well hitherto and because it is capable of gradual development and because it would be a less costly system.

3565. I understand you to say that you think the instruction in First Aid of the constables should be wholly in the hands of the police?—Yes; but that must not be taken to imply that I consider the instruction at present given by the County Council or the St. John Ambulance instructors is other than very good.

3566. I was only anxious to get your view of the whole apparatus as it were. I understand that you would recommend (you would prefer yourself if it were practicable) that the education in First Aid should be done wholly by the police?—Yes.

3567. I suppose you agree with most of the witnesses that the police are generally, though by no means invariably, the persons who have the first handling of street accident cases?—In the great majority of cases it must necessarily be so, I think.

3568. Then why do you suggest, if the police should have the teaching of the constables in regard to First Aid, and the constables must necessarily, in a large number of cases, handle the accidents in the first instance, that they should be handed over to another authority for the purposes of removal to hospital?—It is found in experience, I judge, to work well, and it is a less costly method.

3569. Where has it been found to work well?—In the cases in which accidents and illnesses have been already removed by the Metropolitan Asylums Board's ambulances.

3570. As regards accidents, we have been told that we could almost count on our fingers the cases removed by them, so that their experience is not large?—No, it is not large.

3571. But the experience outside London is that one authority deals with the whole thing. Is that not so?—What authority—the Metropolitan Asylums Board?

3572. No, other municipalities have not the co-operation of the Metropolitan Asylums Board or anything analogous?—I beg your pardon. Outside the London area, you mean.

3573. Outside the London area?—Yes, so I understand.

3574. Have you seen a report which recently appeared in the Press of a report of the Local Government Committee of the London County Council, in which they are proposing that the Asylums Board work, including their ambulance work, should be taken over, as I understand, by the County Council?—I have not seen it.

3575. Now if the Asylums Board were to be the authority for dealing with rapidly moving ambulances in London for street accidents, how would you suggest that the police system of wheeled litters should be worked into that

system; or do you suggest that they should be handed over to the Asylums Board?—No, I think it would be essential to keep them for police work, and also in the discretion of the constable to use for a case of accident or illness.

3576. Then there would be two authorities under your plan for removing cases to hospital, with two modes of conveyance, the wheeled litter of the police and the rapidly moving ambulance of the Asylums Board?—Yes.

3577. Do you think that would be an advantageous system?—I do not think there would be any objection.

3578. You have no objection to a dual authority?—No, not if it were exercised in that way.

3579. Do you think it would not be an advantage if the authority were one and the same?—Even then the removal of sick persons from their homes would be under another authority. That should be no part of the police work at all.

3580. We find in Manchester, unless I am mistaken, that under the police system there, the ambulances that deal with street accidents are also utilisable for the removal of sick persons to and from their homes?—I do not think that would work in the metropolis.

3581. What is there so essentially different in the metropolis to make such a system inapplicable to it?—I do not think it would be part of the police duty properly, and would constitute a tax on the constables' time for which they could be ill-spared.

3582. Is not the essential difference that in London there are two or three authorities dealing with these matters, whereas in the large provincial towns they are dealt with by one authority?—In my view there would be two, but not more than two authorities. If the police took into their hands the whole transport of street accidents and sudden illnesses, there would still remain another authority dealing with the removal of sick persons; at any rate, dealing with the removal of infectious cases. My view is that the infectious and the non-infectious cases should be wholly under one authority.

3583. That is the case in regard to municipalities outside London, as you are probably aware?—It is so.

3584. Under a different department, but under the same municipal authority?—I see no objection to that.

3585. Do you see any objection to having the same system in London that obtains in Manchester, having one authority for the whole thing?—I do not think that the police should, at any rate, have anything to do with the removal of infectious cases.

3586. They would probably be dealt with under the Public Health Department of the municipal body?—But that would constitute another body.

3587. No. Another department of the same body, I believe, we found in Manchester?—But it would take it out of the hands of the police.

3588. It is the point that the police in the City and the police in Manchester are municipal bodies?—Yes.

3589. The police in London, outside the City, are not municipal bodies?—No.

By the Chairman.

3590. I should like to ask one question on what you say about keeping the whole First Aid instruction in the hands of the police. Were you thinking at all of questions of discipline?—Not of discipline. One argument in my mind is that if it were wholly in our hands I think we should have more men holding the advanced certificate, and that is perhaps my principal reason for desiring it.

3591. And also might there not be this consideration, that if the instruction had any special character or special requirements you would probably be in a better position to judge within what limits that instruction should be given, than if it were part of a more general system?—Just so; one could modify it, because I should really have, I suppose, the general supervision of it.

3592. But your main point is that you would get more men to take it up?—I think my chief argument is that I should get more men to take the more advanced instruction.

Mr. HAROLD E. RIDEWOOD, M.D., B.S., F.R.C.S., called and examined.

By the Chairman.

3593. You are a Fellow of the Royal College of Surgeons of England and a Doctor of Medicine of London University?—Yes.

3594. And you have been for 13 months senior House Surgeon at Poplar Hospital for Accidents?—Yes.

3595. And for the last eight years you have been in a position to observe the working of the ambulance service of London?—Yes, first of all for about two years as student at the London Hospital, and after that at Poplar, and then as Resident at the London, and then again as senior Resident at Poplar.

3596. And you also acted for a time, I believe, as a Divisional Surgeon to the Police?—I went as *locum tenens* for six weeks as Divisional Surgeon; and I was also Assistant to Dr. Gordon Brown, the Surgeon to the City Police.

3597. I think you paid a good deal of attention to this question when there was a circular issued by the *Standard*?—Yes; in 1904 they issued a large number of these circulars and sent them up with stamped and addressed envelopes to all the hospitals in London; the idea being that they should be filled up whenever a case came to our notice where the case had been detrimentally treated as the result of there not being a horse ambulance available; but during the whole time that I was at the London I did not come across a case that I thought was worthy of being reported. I wrote to them and I find that they say that they got no results from their inquiry.

3598. With regard to Poplar Hospital, the district served includes the whole of the Isle of Dogs and extends to Stepney, Bow, Plaistow, West Ham and East Ham, Barking, Dagenham, Rainham, Beckton, Custom House, Canning Town, and the Blackwall Tunnel?—Yes. That is the area from which cases come.

3599. I suppose a great proportion of the accidents that come to Poplar Hospital are accidents occurring at the docks?—Yes, the large majority.

3600. And you have really no very large proportion of street accidents?—No. I have calculated that about 300 street casualties come during the year. The total number coming is 48,000.

3601. I daresay you will prefer to make your observations in your own way as to the points that you think are of importance with regard to your experience at Poplar Hospital?—The majority of cases of course are not street accidents, and many of the street accidents which come up are trivial; but we kept those reports that you have already had, from April to May, when there were 15 severer street accidents; and then again in August and September we took fresh reports of notes made in 74 cases of medical and surgical casualties; about 50 of which were street accidents. And then we took another return of one week's work at Poplar in July, giving a list of the whole number of accident cases and casualties, and these were tabulated as to the way they arrived at the hospital. I think you have already those statistics before you. (*See Appendix I., pp. 65, 77.*)

3602. Yes, we have those statistics. What is your experience as to, first of all, the methods by which the patients are brought to hospital? From the docks, I suppose, they are brought in a hand ambulance?—Yes; they have many wheeled litters in the docks, and those are manned by Dock Police, and they do all the transporting.

3603. What sort of wheeled litters are they; are they similar to the police wheeled litters?—Yes, they are rather similar. I think it is the "Furley" type of stretcher as a rule; and they are rather better built than the police litters; they are less heavy.

3604. Is it the type used by the St. John Ambulance Association?—The police wheels, so far as I remember, are quite big ones; these are smaller wheel litters altogether.

3605. Are there two wheels?—Two wheels, and four legs which will let down.

3606. Do you find the need of a horse ambulance much, in your experience?—Do you mean with regard to the docks, or the streets generally?

3607. Take it both ways?—There are certainly some cases in which a horse ambulance is absolutely necessary, because our area goes right away down to Rainham. At Dagenham and Barking there are horse ambulances.

3608. Are those provided by private persons?—I do not know who provides them.

3609. Are they efficient ambulances?—I cannot really remember having actually seen them. They have not been up at the hospital while this inquiry has been on, not that I have been able to see them.

3610. Are many people brought in those ambulances?—Not very many. It is quite a rare occurrence for a horse ambulance to come up with an accident.

3611. I suppose that those are the only ones that are used at all?—Yes, the only horse ambulances. There is another private one, belonging to the Beckton Gasworks that occasionally comes up. I saw it come up one day.

3612. Then from the docks you say that the cases are brought in wheeled litters?—Yes.

3613. What is your experience of the working of wheeled litters?—I find that as regards the dock accidents they are certainly extremely efficient; because the East India Dock is just outside the hospital gates; they have no distance to travel; and in the case of the Millwall and West India Docks, only about half a mile. I do not think a horse ambulance could very well be used in a lot of places in which accidents happen in the docks; there would certainly not be any great saving of time—only a few minutes.

3614. I suppose in accidents of that sort the ambulance would be used in a very large proportion of cases; there are no cabs or other means of conveyance available?—No, they practically all come up on ambulances, unless the cases are so trivial as to be able to walk.

3615. Have you any criticism to make on the ambulances or on the mode of transport; do you think they are capable of improvement?—With regard to the Police ambulances which I have seen, I think there is certainly room for improvement. They seem to be particularly clumsy and some of them certainly have iron-shod tyres. The police say that they have all got rubber tyres; but quite recently I have seen one with iron tyres. And there is one trouble about the covering up of these ambulances, that the head of the patient is covered, and in transit it is very difficult to get at the patient's head, and you cannot see what he is doing.

3616. Are the dock ambulances of the same type in that matter?—Yes, they are; some of the dock ambulances are of the Bischoffsheim type too.

3617. That is rather a different type?—Yes, they are not a uniform type.

3618. The third head in your *précis* is "Views as regards existing arrangements." What have you to say as to the question of the aseptic condition of ambulances?—The ambulances that I have seen have all been clean. There is absolutely no need for the ambulance to be aseptic. It is impossible to have it aseptic unless it carried sterilised towels; but it simply has to be clean. The patient's wound should be covered before he is put on the ambulance, so that the wound does not come into contact at all with the ambulance.

3619. Do the cases receive First Aid treatment in the docks?—Yes, in the West India Dock they have a specially trained First Aid St. John Ambulance man, who is always present. At the other docks, the First Aid is rendered by the Dock Police.

3620. Is it efficiently rendered?—Yes.

3621. Do patients come in carts and wagons?—They come in all kinds of conveyances at Poplar. A cab is not very often used.

3622. Because there are not very many cabs there?—That is so.

3623. With regard to your experience outside the dock area, that is of those cases that come in from the streets, have you anything special to say about those cases?—I have calculated the average time (I believe that you have that already, probably) that it has taken to bring the patient up. In August and September the average time, taking the time from the accident itself to arrival at the hospital, was 17½ minutes, and in April and May, 26 minutes.

3624. From the time of the accident to the time of arrival at the hospital?—Yes. There was one case only which took any real length of time, that was 65 minutes.

3625. That was at a distance, I suppose?—Yes. Then during the time that these inquiries have been made

Dr. H. E. Ridewood.

we have not come upon any case where a horse ambulance was essential really. I mean that none of those cases have suffered any severe harm from the way they have been removed.

3626. Are you speaking now of all cases—docks as well as street cases?—Yes.

3627. For dock cases you say that a horse ambulance could not be used?—That is so.

3628. But you say that you know of no case where the mode of conveyance has produced any serious harm?—That is so. Of course the police bring a large number of these accident cases up, and occasionally they bring them in other conveyances besides their ambulances; and there are certain cases in the returns where they have been known to bring up fractures not in ambulances but in wagons and vans. I do not think that that is really the proper way to do it—they should have an ambulance; but the harm resulting is not serious. The only difficulty is in lifting the patient into the van. When once he can lie flat, there is no further harm can result, except discomfort.

3629. So far as you have noticed the way in which the police administer First Aid, what do you say as to that?—I have found that they have practically always rendered First Aid very efficiently. They certainly know how to put on splints properly, and they know how to stop bleeding, and they always put some covering, a clean handkerchief or something, over the wound in any injury of that sort, and they also realise in what cases to send for an ambulance, and what cases to send up in a van or other means of conveyance—a carriage or cart. They use their discretion very well.

3630. Then for your long distance cases, I suppose you would say that a more general system of horse ambulances would be very important?—Yes, I would.

3631. Have you many cases that come from a considerable distance?—No, not so very many, because what cases there are are generally fairly severe accidents. One man for instance, had his arm torn off at Rainham, and he had First Aid rendered there—he had a tourniquet put upon it—and then the only means they found of getting him up to the hospital was to bring him to Barking in a barge and then transfer him to the horse ambulance there.

3632. And that took a considerable time?—Yes.

By Sir William Collins.

3633. There were cases in the Returns from the London Hospital where it was suggested that a rapid ambulance was desirable?—I have been referring to the Poplar cases.

3634. You are only dealing with Poplar?—Yes, only with Poplar. I have been at Poplar all the time this inquiry has been going on.

3635. You are not dealing with the London cases?—No.

3636. Not at all?—No.

By the Chairman.

3637. I should like you to tell us anything that you think is of importance?—I have some further figures which may be perhaps of interest to the Committee, that is to say the number of all cases of accidents which occurred in August. The total was 74; 23 of these were admitted, 26 were made out-patients and the remaining 25 were summarily dealt with. Of these cases the police brought 38, 15 of whom were admitted, 8 of them made out-patients and 14 were summarily dealt with. Then I have a similar return for which I hand in a similar table, showing how many the police brought in April last, and in order to get an idea of the amount of work which the police do, I added up all the police cases in March and April. In March they brought up 24 cases, and in April 30 cases; so that in the two months they brought up 54 cases.

By Sir William Collins.

3638. What proportions did the police cases bear to the total?—It would come to 300 cases in the year, and the total number of cases in the year is 48,000. That is the total number of cases that came up to the receiving room at Poplar.

3639. Casualties of all sorts?—Yes, of which I calculated that about 30,000 are accidents of sorts, most of them trivial of course.

3640. But what proportion of severe accidents (could you tell us, it may not be possible) are brought by the

police and by other agencies respectively?—I can tell you the number admitted, for instance. There were 1,300 cases admitted during last year, and of the cases that the police brought up, who were admitted, there were 18 admitted during those two months, that comes to about 108 in the year; that is about one-tenth of all admissions.

3641. All the surgical admissions, is that?—The number of surgical admissions is 1060. This is, actually a tenth of this number would be police cases.

3642. What proportion of the total admissions were severe street casualty cases; and then what proportion of those were brought by the police?—I could not state those numbers for certain.

By the Chairman.

3643. Then those figures exclude the dock accidents. Those are all street accidents?—The number brought up by the police were practically all street accidents.

3644. That is what I supposed?—I have also got the number of times in which the police called in a doctor. In August last there were 38 cases brought up by the police, and seven times a doctor was called in by the police.

3645. Were those cases in which it was desirable to call a doctor in—in which it was the proper step to take?—Yes, referring to the Returns.

3646. Then, generally speaking, inasmuch as the police have to use considerable discretion, what have you to say about the way they use that discretion?—I have found that they are eminently capable of discretion; they use it extremely well.

3647. They have to consider whether they will call a doctor in or not?—Yes.

3648. And what the mode of conveyance is to be?—Yes.

3649. And also what can be usefully and properly done in the way of First Aid treatment?—If they call a doctor in, of course the doctor takes all the responsibility. Some of those cases which occur in the Returns, where people have been sent up in a van, are cases where a doctor has seen them; and there I presume the doctor thought it was quite satisfactory.

3650. Have you any cases in which more has been attempted to be done than was wise?—I have not come across those in police cases, but I have come across them with First Aid people.

3651. Amateurs?—Yes, and also the St. John Ambulance Association. They do more than the police, and one of the commonest troubles is the way they put on a tourniquet. Very often you have a lacerated wound in the forearm where they have put on a tourniquet above it. They had probably seen a small artery spurting and then they put on the tourniquet not tight enough to occlude the main artery of the limb yet so tight as to obstruct the venous blood return completely, and the bleeding has been terrific by the time the case has got to the hospital, and it ceases usually as soon as the tourniquet is removed.

3652. Mr. Dent told us just now that he would rather say that the tourniquet should not be used for fear it might be used too much?—It has been suggested that the police should wear a special brace and use it as a tourniquet. I think that is a mistake. It would tempt them to use it. But there are certainly cases in which the tourniquet has saved life. I have come across certainly four cases which would have died without the tourniquet during last year. But a tourniquet can always be improvised from a handkerchief and a truncheon perfectly well.

3653. But still it ought to be used with great discretion?—They certainly ought to be well taught how to use it.

3654. Do you agree that the police can be taught more, that there might be improvement in the way they are taught—that they might have rather more definite instructions as to what to do?—I am not very well aware what actual instructions they have as regards that.

3655. You can only speak generally?—Yes.

3656. And your evidence is favourable to that extent?—Certainly. I find that in the K Division (the whole of our police work is done by the K Division of police), they have to attend instruction in First Aid which is given by the police, and after that they all of them have to pass either the County Council examination or the St. John Ambulance examination.

3657. That is rather more than is absolutely required in most divisions. Is there anything else that you wish to mention? It is very important to get the experience

Dr. H. E. Ridewood.

of different surgeons from the different hospitals. Perhaps you would just look through your *précis* and see whether there is anything further that you wish to bring before us ?—There are one or two examples that I could give of different cases from experience. For instance, one point with regard to a horse ambulance was the fact that accidents occur in batches. We had a very good instance of that at Beckton Gas Works, where they keep their own horse ambulance. At their sports a woman got an injury to the hip, and was taken to Battersea in the ambulance. Shortly after that a cyclist fell off his bicycle and got his skull broken. They waited for that ambulance to come up—they did not know where it had gone to—and had to wait an hour before they could transport the case. If they had gone for the nearest wheeled litter they would have had him up at the hospital very much quicker. But they did not know that.

Then there is one point, as to whether medical aid is necessary to go with the ambulance.

3658. What do you say about that ?—I have found that the police always, where it is necessary, call in a doctor.

3659. Then does the doctor come with the ambulance, when called in ?—If necessary he does come with the ambulance, but in the majority of cases he just decides what has to be done, and tells them to bring the case. I do not think there is any need of sending a doctor out with the ambulance. It would be impossible to send one of the surgeons from Poplar Hospital.

3660. He could not be spared ?—No ; there are certain occasions when it would be absolutely impossible, and at other times it would interfere seriously with their work. But I think there are cases, in the ordinary run of cases, where a horse ambulance is necessary—in such cases as precipitate labour or rupture of varicose veins in women. While I was at the London Hospital we had cases of precipitate labour occurring in the streets, which had to be brought up in cabs, so far as I remember ; and there, of course, it would be necessary to send a nurse with the ambulance, because the doctor cannot examine the patient without the nurse being present. But a doctor need not go with the ambulance ; the nearest doctor could be called by the police.

3661. Do you think it desirable that the police who have witnessed the accidents should come with the patients ?—It is desirable, but I do not think it is absolutely necessary. We do get a certain amount of assistance from them, but it is only in certain cases where they are of real assistance. The majority of cases can be diagnosed without them. It is not an essential point at all, I think.

3662. But if you had a horse ambulance, if you sent a policeman who had efficient knowledge of First Aid treatment with the patient, if anything had to be done on the way he could do it ?—Yes, certainly. I think he ought to come with the patient if he has done the First Aid, if it can be arranged, unless somebody else takes it over in the interval. But I do not think it is essential he should come.

Then it has been suggested that the hospitals should be linked by telephone. In my experience never has Poplar Hospital had to refuse admission to accidents. They have 16 extra beds, and in the case of any sudden emergency they have never had to refuse admission.

3663. In the majority of cases, of course, a hospital would do almost anything rather than not take in an accident case ?—Yes, however full they are, they are always able to make up an extra bed.

3664. Therefore you do not think that it is necessary

to inquire beforehand whether a patient can be received or not ?—Oh, dear, no ; it is quite unnecessary.

Then with regard to the removal of poor people from their homes, I am afraid that does not quite come within the Committee's reference ; but I think that there is a much greater need for reform in that matter than for street accident cases, because we very often have a note from a general practitioner saying that a patient is seriously ill and he wants him removed to hospital : the police are not supposed to assist in the removal of such a patient, and the Guardians will not allow their ambulances to be used, and although ambulances can be got from other Societies for a certain fee, usually the patient is not able to pay that fee. There are, I might say, hundreds of cases a year who certainly more or less forfeit all their chance of recovery by not being moved up in time, by having difficulty in getting the money, or being sent up in the wrong sort of conveyance. Lots of cases of peritonitis and strangulated hernia, and so on, come up in cabs and other vehicles.

3665. You agree with those witnesses who have said that they consider it to be a very great need, and quite as great a need as an improved method of dealing with street accidents ?—I do not think the ordinary litter is suitable for the conveyance of such cases, not only from the fact that the patient is in blankets as a rule, but also from its requiring skilled assistance for lifting the patient on to the stretchers.

3666. Then in your view it would be a great element in any improved system that might be recommended if it was capable of extension in that direction ?—Yes. There was one instance of that that occurred only last week. The master of one of the barges in Millwall Dock was seen by a doctor, who told him that his only hope was in his immediate removal to the Seamen's Hospital. He advised him to send for the police ambulance ; but they said that they were not allowed to come into the dock—he went to the Metropolitan Police. They then made other inquiries, but apparently were not able to shift him until the Monday night, when they again called in the doctor and he got the Dock Police to remove him. By the time he got to the hospital he was dead—that was three days afterwards.

I might mention that occasionally I have found that the general public do not know where the ambulances are, and they do not know what to do. I would suggest that some list should be put up in places where they could be seen, such as the places where they put up the cab fares, which would tell them the position of the different ambulance stations. And then also very often a policeman cannot be found, and there is no means of getting at the ambulance. I would suggest that some means should be found of using the telephones already in existence. Lots of private houses and shops in Poplar have telephones, and I think if notice were put outside some of these in prominent places in different parts of the district they might be utilised for summoning ambulances.

3667. This is, I understand, the general mode of summoning an ambulance in Manchester—the private telephones are so used there ?—I suggest that they should telephone to the police station for an ambulance, when they would send a stretcher.

3668. Do you mean in cases of illness ?—No ; for accident cases. In the illness cases, as a rule, there is not such urgent need as that, as long as you can get a horse ambulance.

3669. Is there anything else you would like to add ?—No, I do not think so.

FOURTEENTH DAY.

Wednesday, 2nd December, 1908.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. The EARL OF STAMFORD.

| Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Mr. T. DUNGOMBE MANN re-called and further examined.

By the Chairman.

3670. We are very much obliged to you for coming to give evidence again. There are one or two points we have been discussing, about which we thought you could assist us. You have had a letter calling your attention to some specific points?—Yes.

3671. I see we have your answer to that?—Yes.

3672. Before going to that I should like to put one or two general questions to you. I think your attention has been called to the evidence of Sir William Church? I should like to read just one passage and ask your view upon it. I take it from Question 3266. I will just read the points which are important for us: "My own opinion is that the whole transport of the sick and injured (in London, that is to say) should be under one authority and in one hand; and I believe that something on these lines is workable and would prove economical." Then, passing over what he says about the ambulances maintained by the Boards of Guardians, a little further on he says: "I might say that I have made inquiries, perhaps not very deep ones, into the system that the Metropolitan Asylums Board have for transporting the cases which they transport. I find that they have already two services: they have a service for infectious cases, and they have also, although it is not very largely developed, a service for non-infectious cases. I believe that by putting the whole of the transport of the sick and injured into their hands you will effect a very large economy." You observe that he is there speaking of the whole of the transport of the sick and injured, not merely street cases, and not merely accident cases, but the whole of the cases of sick and injured?—Yes, medical and surgical cases.

3673. Then he goes on to say: "If they had the transportation of all the persons who at the present time are transferred by other authorities under the Poor Law, if it was all put into their hands, and there was a fixed tariff for moving these patients. I believe that the money that the Asylums Board would earn in that way would go a considerable distance towards providing the means for what I should then call their emergency service, and I do not myself think that the populace would imagine that they were being carried in an infectious ambulance." Then he goes on to speak about the distinction between the infectious and non-infectious ambulances in point of colour and so on; but a little below he says: "I agree entirely with Mr. Morris as to the excellence of the ambulance service of the Asylums Board. I have been to one of their stations; I have been, in fact, to several, but not of late. Of late I have been only to one, and I went thoroughly through that, and my own view is that the best thing you could do would be to put the whole transport of the sick and injured into the hands of one body, and I believe the Asylums Board would do it very well. I have had long conversations with their Clerk, Mr. Mann, and he sees no difficulty either, and he does not think it would very greatly add to their expense." I should like to ask you generally whether you have any observations to make on that, whether you generally concur in it?—I am one of these people who strongly believe that the more you concentrate similar duties in the hands of one authority, the more you are bound to do the thing efficiently and economically. I cannot think the multiplication

of authorities is at all desirable. Generally speaking, therefore, I concur in what Sir William Church says.

3674. That is to say, he puts it in this way: that for the whole transport of the sick and injured (which goes a good deal beyond what we are inquiring into now) there is no insuperable difficulty in the Metropolitan Asylums Board undertaking it?—No insuperable difficulty if it is imposed upon them. There would be a great deal of difficulty in the shape of jealousy, unless it were absolutely imposed. I refer chiefly to the jealousy of Boards of Guardians. I think that if it is intended that the duty of keeping an ambulance at each infirmary should be taken from them and handed over to the Asylums Board there would certainly be an outcry to begin with. But nobody, I can imagine, can doubt that it would be done more economically if it was done centrally. I see that Sir William Church quotes me as saying that I do not think it would add very greatly to the expense. That is, of course, a relative term. What some people would think "very greatly" is different from what other people would regard as "very greatly." There is no doubt that one cannot create a street accident ambulance service without additional expense, and it is all a question of what the figure is as to how different people look at it. Some people would call £10,000 a year an extraordinarily cheap additional expense, others would think it a very large figure. It is all a question of the point of view.

3675. But I understand your view is that whatever the figure may be, the organisation of the Metropolitan Asylums Board, who already have a supply of ambulances and so on, would enable them probably to do the work more economically than any other body starting afresh?—I think so; it would go to a large extent to a saving.

3676. That leads us rather to those questions of detail to which your attention has already been drawn. First of all, I will ask you to give us a little more information as to the number of vehicles that you have. You said, I think, if I recollect rightly, in your former evidence, that the number was practically unlimited?—I did.

3677. Will you just develop that a little?—Certainly. We have at the moment 14 clean ambulances. That number could be enlarged almost indefinitely, because with our large fleet of vehicles we are always adding to them. I need hardly tell you that we are replacing horse-drawn vehicles with motor-drawn vehicles, and that I expect will develop still more considerably. We have in fact at this moment before the Board, a scheme—which may or may not be approved—I think it probably will—for converting one of our stations—the Western Station into a station composed wholly of motor vehicles. That would set free another 15 vehicles straightaway, which could be devoted to this purpose if it was wished.

3678. Your number of motor vehicles is increasing?—Yes.

3679. Do you find that they work satisfactorily?—Yes; and I think it is bound to increase.

3680. Do you find the difficulties, that they break down occasionally, and that sort of thing, diminishing or increasing?—I think they are certainly diminishing. There are occasional breakdowns, but it is much more easy to deal with them.

3681. You look to the motor as the vehicle of the future?—Yes. I should like to modify the evidence that I gave

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last time on that subject. I think I then indicated a past phase of opinion of my Ambulance Committee in their more or less condemnation of the electric motor. I am bound to say that to-day I look upon the electric motor, as installed in the City of London, as being, as nearly as one can get, the ideal motor for street accident work.

By Sir William Collins.

3682. You would revise the answer "Not yet"?—Yes, I should; they have made considerable strides since we experimented with them.

By the Chairman.

3683. When a vehicle gets on in age, have you found that there is more liability to breakdown?—Yes, and of course the older vehicles that were bought are not as satisfactory as those one buys now.

3684. I suppose there has been, and probably will be, a progressive improvement in the type of the vehicle?—Yes, and it is rapidly progressive.

3685. Just on that point, do you find any inconvenience from jar or shock in starting?—We have to employ petrol vehicles, of course, at present, and there is a certain amount of jar inseparable from those.

3686. Do you think that an electric vehicle is better in that respect?—I think, unquestionably, for a very serious case.

3687. The City one is electric?—Yes, the City of London one is electric.

3688. I think there they say that they do not find any difficulty from jar?—Yes, it seems to be entirely satisfactory.

3689. Then you say that a certain number of horse-drawn vehicles would be released as motors increase?—Yes; but if the 14 that we have now were insufficient for the stations that we might work as horse stations (which I think would only be with our existing stations) we could add to the number immediately.

3690. Do those 14 horse ambulances belong to the infectious service?—No, they are absolutely clean vehicles already. Our total number of vehicles, as I said before, is 174.

3691. These are quite entirely clean vehicles?—Yes, those 14 are already clean vehicles.

3692. As regards the number of stations—that is a point with which we are immediately concerned—do you think that if you were to carry out Sir William Church's suggestion that the whole ambulance service for street accidents and everything should be undertaken by your Board, if you were to be liable to have summonses, both from the police and from individuals, it would be necessary to increase the number of stations?—Yes, I do. I have been considering the matter. I do not profess to have to-day a perfectly organised scheme on paper, but I have been considering it a good deal, and I have had the advantage of talking it over with my Ambulance Committee, and I think I may say that we have come to the conclusion that if we had all this duty put upon us we should require to supplement our existing organisation with a number of small stations.

3693. I am speaking now only of street accidents; that is our immediate point?—I am speaking of everything; but for the special purpose of street accidents, for the purpose of enabling the Board to have an ambulance within, say, a maximum distance of a mile from any accident within the inner area—that is, the more densely populated area—I think it would be necessary for the Board to provide a number of small places. By a "station" in this connection I do not mean the same thing at all as our present stations. I contemplate something much more like the City of London little station, which I daresay you have seen. I think we should require additional stations to fill up with our present stations the inner area, so that there should be a vehicle within a distance of about a mile from every part of the inner area, and a number would have to be added in the outer area, although not to the extent of bringing every spot in the outer area within a mile. By the outer area, I mean the outlying part of the County of London—the less densely populated part of the County of London—where there is less dense traffic; you would have to supplement that a little, but you would not be able, I think, to bring every part of it within a mile. I have come to the conclusion, without being very precise, that about 10 such stations would do it, with the six that we have in work, and the two additional ones we have but which are not in active use.

3694. Do you contemplate there being more than one ambulance at each station, or only one?—That is a matter which I think wants a good deal of consideration. One is sufficient, unless it turns out, which no one can very well foresee, that street accident calls in any given area are very numerous. I do not think there would be any practical difficulty in running the service with one, because on the rare occasions (and I take it they would be rare), when a call came for an ambulance, when it was already out, it would be quite possible to turn out another ambulance from another station, although it might involve a slight delay in getting there—that is to say it would be a little further for the ambulance to come.

3695. It depends to a great extent upon the perfection of the means of communication?—Yes. I should certainly reserve that question, whether I should house one or two vehicles; it would certainly be safer to house two, but it might work quite well with only one.

3696. The experience of the City of London so far is with only one?—Yes; but they have had duplicate calls, that is to say, they have had a call come when the ambulance was out, and they have had to send out a hand stretcher.

3697. As to the means of communication. I rather gather that your view is that the means of communication between these different stations and the central station should be the private telephone lines?—Yes, as we have now.

3698. And that would be quite sufficient?—Quite.

3699. I will not say perfect, but as good as can be?—It is as perfect as we can get it. There are occasional breakdowns, but they are not very frequent. I may say that the moment we have a breakdown, the moment the line is out of order, the Post Office send immediately to put it right. They always answer our call immediately.

3700. And I suppose also it is comparatively easy to establish communication between the various police stations and your stations? Supposing that a constable communicates with his station on the occurrence of a street accident, then that station could be placed in communication with your station?—Yes. I think the best organisation would be that the calls should always come to the centre, or as nearly as possible always. I would not by any means exclude any call which could be effected in the quickest way, and if an accident happened outside a station, I would not exclude anybody from walking into the station and giving his call there, because they could put it through to the central office, but I think it is very essential from all points of view that the organisation and the direction of everything should be from the centre—I mean the Head Office.

3701. Your Head Office?—Yes.

3702. Just to follow that out: supposing that an accident happens in the street, and supposing that we can get a system organised as you suggest, the constable would communicate—we will not say how—as best he can, with his own headquarters at the police station?—I would not suggest that. I would suggest that he should have standing instructions to make himself acquainted with every telephone call office in his area, and with every other means of communication that may be available, the situation of the nearest ambulance station, for instance, and any call office that there may be in a police station, or any other place where he can telephone, and that he should put his call through straightaway to the Head Office if possible.

3703. The constable in the street should communicate with your Head Office direct?—Certainly. The less delay the better in getting to the Head Office.

3704. I suppose it is conceivable that there might be quite as little, if not less, delay sometimes in communicating with the office with which he is in the habit of communicating, namely, his own station, and then the station passing the call on to you?—True, it might be the quickest way of communicating with the office.

3705. And it would be the way he probably would understand best, because he would be doing it for other purposes?—Yes.

3706. That is a question of detail, though of very important detail?—Yes. Of course, the very quickest way of all would be for the policeman to have a lot of street calls on the edge of the pavement all over the Metropolis: but it would be so fearfully costly that I think it is not to be entertained.

3707. You are aware, no doubt, of the system of calls in the City—52 call boxes?—Yes.

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3708. Do you think it would be possible to extend that?—To extend it all over the County of London would be very costly. I should hesitate to suggest it, even all over the County of London; I think it would be so costly. Every one of these boxes, assuming that they are only half a mile distant from the point of their call, costs about £6 a year. The City of London has 52.

3709. It seems that they would not be very useful unless they were short distances apart, so that a policeman could get to them without loss of time?—They ought not to be more than a quarter of a mile apart to be of any good, and that would mean, I should think, probably £30,000 a year, which is a very serious matter.

By Sir William Collins.

3710. You said you hesitated to suggest them all over the County of London?—Yes.

3711. Should you hesitate to suggest them in any part of the county?—I have already suggested that, owing to the means on which I suggest we should first of all rely being defective, that is to say, through their being shut at night and on Sundays and whenever business premises are closed, it is desirable to have some of these call boxes in some of the busiest thoroughfares and at the most awkward crossings. I should have one at every awkward crossing. For instance—though it is in the City, and so it is not in question—at a place like Blackfriars crossing there certainly ought to be a call, whatever other means of communication there are.

By the Chairman.

3712. You would have some in places where experience shows that accidents do occur?—Yes, and add to them from time to time as experience shows they are wanted. But I would not advocate the immediate establishment of a complete system of street calls as the only means of call, as I think it is too expensive.

3713. There is at present, I suppose, no direct system of communication—no private wire—between the police stations and your office?—No, I do not know to what extent the Metropolitan Police now have got communication between themselves, but assuming that they have, there is no communication between them and us. That of course would be a very small matter; we could easily put on a wire to run from the central police office to ours, or from the various police offices to ours. It would not be a very serious matter.

3714. Let us go now to the question of the separation of the two services, the infectious and non-infectious. Will you kindly say how you contemplate organising the separation of these two services so as to obviate as far as possible any danger, or even any apprehension of danger of the use of an infectious case vehicle for other cases?—That is a thing I do not think it is possible for anybody to indicate precisely at the moment. I think it is a matter that requires consideration in each separate station. You will have seen in the different stations you have been to that they are quite different, and that what might be suitable for one would hardly be suitable for another. But what I would contemplate straightaway would be the actual physical separation of the clean from the infectious case ambulances by housing them in separate buildings. It can be done more easily in some of our stations than in others; in some of our stations they could actually be housed in wholly different parts of the premises. In others it might be necessary simply to make a partition between one part and another part of an existing shed; but there is no doubt that as the ambulances change from horse-drawn to motor we shall have ample accommodation, and it will be much more easy to make a complete separation—a separation, I mean, which is of the character of being on opposite sides of the street, rather than on the same side of the street.

3715. These new stations that you contemplate, I suppose, would be only for non-infectious clean vehicles?—Only for clean vehicles.

3716. And the ambulances for those stations would be available for calls by the police or anybody else for cases other than infectious cases?—Yes, certainly, whatever we might be empowered to deal with. We should only have six stations where infectious disease work is done. There would be the seventh, the Mead station, which is the garage for infectious and non-infectious case vehicles, but it is so large that they can be quite easily kept separate, and there would be a separate place for the non-infectious work at that station. The Tooting Bee station, which has never yet been used, would be wholly for non-infectious case vehicles.

3717. Supposing it should be arranged that at the stations where there were ambulances intended for use for street cases, there should be a Metropolitan Police constable in attendance to accompany the ambulance, do you see any objection to an arrangement of that kind?—Not at all, except I think that, while stationed there, he must become an officer under the control of the authority, that is to say, of the Board.

3718. In what way?—He must be subject to the discipline of the superintendent of the station.

3719. You know how the City of London ambulance is worked? There is a trained police officer actually in attendance on the spot?—Yes, but the thing is worked by the Commissioner of Police; he is the controller of the man at all times, not only when he is there, but when he is not.

3720. The whole thing is under the Commissioner of Police?—Yes, I do not think you can very well in any publicly maintained institution have an officer or servant alien to the discipline of that institution.

3721. Just let us consider what his duties would be, so far as his presence at the station is concerned. I suppose he would have a room in which he would be sitting or in attendance, and I suppose you would put him in control of the signalling apparatus?—Yes, possibly. I should certainly at the new stations, but not at the existing ones. At the existing ones we should use the existing signalling system.

3722. Would you contemplate that these new stations would be principally or even entirely stations for street accident cases?—They would serve exactly as the others serve so far as non-infectious cases are concerned, but they would be the stations principally serving for street accidents in this sense, I think, that they would be located in what may be called the accident area more than our present stations are.

3723. With a view principally to the street accident service?—Yes, I think they would do a little more of that work for that reason—that they would be located much more in the accident area, or some of them would, though some would not; some would be in the outer area of the Metropolis, where the accidents would be very much fewer.

3724. Then if it could be arranged between the Commissioner of Police and the Metropolitan Asylums Board that his officer should superintend the signalling apparatus and take the calls and so on and deal with the calls, do you think that would work well, or would there be difficulty?—I do not quite know what you mean by superintending the signalling apparatus and taking the calls.

3725. I mean actually taking the calls?—What I should contemplate would be an officer, whether a policeman or otherwise, who has some skill in First Aid, being in attendance in the station and receiving the call direct in the case of a little station, but receiving the call from the office in the case of our existing stations. In fact, I contemplate additional stations being very much on the lines of the present City of London station.

3726. One knows how important those questions of discipline are in bodies like the Police and the Metropolitan Asylums Board, and you might get friction or something going wrong?—It is on that account that I think he must come within the discipline of the station. He must be an officer of the Board; he must be the Board's attendant if he is employed by the Board.

3727. Then after an ambulance starts and the police constable starts with it, would you make him responsible to decide any question as to the pace they are to go at and that sort of thing?—Do you mean before he has reached the accident?

3728. On the whole route. Supposing that there was any question with regard to the service on which they were engaged, who ought to decide it—the ambulance officer or the police constable? Merely as an instance, the question of pace would probably arise after the patient was put in the ambulance?—Pace seems to me to involve two totally different aspects. There is pace as regards safety amongst the traffic, which is the driver's question, and pace as regards the comfort of the patient, which is the attendant's question. I should let each one settle it his own way. I should make the driver absolutely responsible for safe driving; but I should make the attendant, whether a policeman or any skilled attendant whom we might send out, responsible for the pace as regards the comfort of the patient.

3729. I am only asking whether you think a workable arrangement could be made?—Undoubtedly, it works now. We have the same arrangement now under which

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the drivers of the vehicles are responsible for driving properly, but the attendants on the patients, nurses or otherwise, can always check them if they think the patient is too seriously ill to stand the pace.

3730. That is a point on which we would like to hear what the Commissioner of Police has to say?—Yes, of course.

3731. Now I think the only other point is with regard to serving the part of the Metropolitan Police District outside the County of London. Do you see any difficulty there? Would you, in the first place, require legislation to be able to serve it?—We should require legislation for any part of it.

3732. But I was asking whether there would have to be a special provision?—There would have to be a special provision anyhow, I think. With regard to a mere run out of the Metropolis at the request of the police to pick up a case and remove it, surely the only question is financial, and provided that the municipal authority—I am speaking of ourselves now under a general title—were to undertake the work, I think it must be paid for by somebody who would represent the area in which the accident occurred.

3733. You get that under the police rate?—Yes; I mean that I think the Commissioner of Police should pay for it. We do not go outside the Metropolis now for any case, unless we are paid for it, so that we can say that the ratepayers of London do not suffer by anything we do outside the Metropolis. I think the proper thing to do if we went outside for any accident would be for the Commissioner of Police to pay for that journey. But there would be greater difficulty if you asked us to establish a station outside.

3734. Would that be necessary?—There are some portions of the Metropolitan Police District which are a very long way off.

3735. The Metropolitan Police District includes Croydon and West Ham?—Yes, and farther than that.

3736. Have you a station anywhere near Croydon? Could you do ambulance work at Croydon?—We should have a station somewhere down there. The nearest station, I suppose, would be down in Streatham, probably our Tooting Bec place would be as near as any; that would be a five mile journey, and that is by no means the farthest. I live in a rural parish two miles beyond Bromley, and the police district goes three miles beyond me in Kent. It would be hopeless for us to build a station in an outlying place like that; and I think in the north it goes right up into Hertfordshire, I think to Ware. There would be considerable difficulties. I think about establishing a station outside the Metropolis. It can be done by Act of Parliament of course. It merely means a financial arrangement between the London ratepayer and the ratepayer of the County, County Borough or Urban District, or whatever it may be.

3737. It might come out of the Police Rate?—Or it could be taken straight out of the Police Rate. I do not know what powers they have of raising capital in the Police Rate.

3738. Strictly speaking, that is outside our Reference, as we are only dealing with the Metropolis. I think that is all I wish to ask you.

By the Earl of Stamford.

3739. I think you feel that the separation between the staff for infectious and non-infectious cases would be more completely carried out if the staff for non-infectious cases were non-resident?—I do, because then they would not need even to mess with the others.

3740. They would hardly have any opportunity of coming into contact with them?—That is so.

3741. And you would contemplate that in the extra depots which the Board might provide?—Yes, they would be wholly for non-infectious cases.

3742. Then I want to ascertain your view upon the question of police constables being selected for work as attendants. You see no reason why they should not be employed as attendants? Is it your opinion that they would be the best attendants for the purpose?—I have not personal knowledge as to how far they are specially skilled. If they form the best body of men trained in First Aid work that you can put your hands upon, I should say "yes"; but if they are not, if there is nothing to choose between them and any other class of men, then I do not know that there is anything in it.

3743. With regard to the staff required at each of the new depots, what would probably be the number altogether?—I do not see how we can improve upon the staff in that City depot—that is, two men; and they work in shifts of eight hours each, which means six men. I do not suppose that you could set up in London twelve-hour shifts, as they do in the country; so that I do not see how you could do with less than six men for each station—that is, three attendants in three shifts of eight hours each and three drivers. Then you would want a margin on the top of that for giving the men a certain amount of leave and holidays, and providing for sickness and so on.

By the Chairman.

3744. Then the two men would be the driver and the attendant?—Yes, to be on duty day and night.

By Sir William Collins.

3745. Last time you were before the Committee, I had to leave early, and I had not an opportunity of getting all the information I wanted from you; perhaps I might trouble you at a little greater length to-day? I understand you correctly stated the attitude that you adopted before the Committee on the last occasion when you said that you were not a supplicant for a street accident service, but you thought that if the Board were asked or required to undertake that service, they might be able to do so?—Yes, that is the position.

3746. Has the Board carried any further resolution on the subject since the 28th November, 1903?—No, I think not.

3747. That resolution, I think, excluded the case of street accidents?—Yes.

3748. And required a payment of 7s. 6d. when an ambulance was used?—Yes.

3749. You told the Committee last time that the very efficient service of the Asylums Board for the removal of infectious cases had been built up tentatively, I think—little by little?—Yes.

3750. And you also stated, I think, then, that prior to their coming upon the scene the Guardians' system had been very severely criticised?—Yes.

3751. That, I think, specially took form before the Royal Commission of 1882 on Infectious Diseases?—Yes.

3752. And I gather that to-day you said that you anticipated possibly that if the Asylums Board were suggested as the Ambulance authority for London, they would encounter some jealousy on the part of the different Boards of Guardians?—If you intended to suppress the Boards of Guardians' own ambulance arrangements.

3753. I think we were told by Mr. Lyon that he did not think there was any need for concerted action by legislation, and that the work of the Boards of Guardians and the Metropolitan Asylums Board for the purposes of street accidents would alone suffice?—I see he says so.

3754. You attach importance to a uniform service under one authority?—Undoubtedly.

3755. As your attention has been called to the evidence of Sir William Church, I think it is only fair to ask you whether you are aware that Sir William Church appeared as the spokesman of a deputation before the London County Council to present this resolution, which was passed by the Metropolitan Street Ambulance Association: "That there should be one controlling authority responsible for a uniform and well-organised ambulance service, and that the London County Council, as the central representative body for the Metropolis, was the one best fitted to undertake the work"?—I was not acquainted with that.

3756. I do not think that we got it from you last time, and it is rather important to know what is the actual number of street accident cases that have been dealt with by your ambulances? You told us that it was very few indeed?—Very few.

3757. Could you not give us the exact number?—I think I said last time eight or nine. It is very difficult to say. I am afraid I cannot tell you the exact number.

3758. At any rate, we may take it that it is very few indeed?—Yes.

3759. And that, as well as the work for non-infectious medical cases, is at present extra-legal?—Yes, that is so.

3760. I think you told us, in answer to question 946, that "On the 27th April, 1906, the Commissioner of Metropolitan Police wrote to the Asylums Board, stating that two

out of three horsed ambulances which were placed at the disposal of the police authorities by benevolent persons many years ago, were now unfit for use and not worth repair, and the third one was of an obsolete pattern?"—Yes.

3761. Are you sure that that was the date; because it was on the 26th March, 1906, that a memorandum was put before a Parliamentary Committee, signed by Sir Mackenzie Chalmers, saying that these horse ambulances were in constant use?—I believe I was quoting the correct date in my evidence. Yes, that is the correct date.

3762. In Question 978, to which allusion has been made this morning, you were asked what was the number of your ambulances at present available for non-infectious cases, and your reply was, "It is an unlimited number." I gather that you qualify that a little to-day by stating the actual number that are available?—I have said already to-day that the number is 14; but it is practically unlimited, because within a week it could be increased to almost any number.

3763. But when you were asked "at present available," and you said, "It is an unlimited number," you meant that you could build them?—No; I mean by using existing vehicles—by renovating them. I hold that you can convert an infectious-case ambulance into a non-infectious-case ambulance within a very few days.

3764. Then you contemplate a transference from the infectious to the non-infectious branch?—Yes, but a complete transference; I do not mean a temporary transference.

3765. Have you more than you want for the infectious service?—Yes, we have always a margin.

3766. How many is your margin?—It is impossible to say. We want a certain number to-day and may want twice that number to-morrow, and the margin has to be over that twice.

3767. But if your supply at present for non-infectious work is unlimited, and if that is so because you can draw from the infectious service to the non-infectious service, it would be interesting to know what is the total number of ambulances that you could transfer from one service to the other?—The word "unlimited" must not be strained. I did not mean absolutely unlimited in the sense that there could be any number, but that there is a very substantial margin that could be applied to non-infectious work. It is unlimited in this sense: that it is as many as ever would be required for any of our existing stations.

3768. Then would you contemplate transferring in the opposite direction, if need be?—Yes, if need be, if they could be spared. I have certainly no objection to that.

3769. Would you utilise the ambulance for either branch as occasion required?—No, I do not contemplate that at all. I would have nothing in the shape of a free-and-easy use of a vehicle indiscriminately. By transference I mean a definite transference.

3770. Do you contemplate that if the Asylums Board were to be the ambulance authority for London the non-infectious service should be absolutely and entirely distinct, as regards the matériel, from the infectious service?—Matériel and personnel.

3771. Absolutely distinct?—Yes, certainly. I mean, of course, within the same station in some cases—in six cases.

3772. You told us, I think, last time, that the non-infectious service was a mere excrescence on the proper service at the present time?—Yes, I did.

3773. So that anything like the development needed to meet the street-accident and non-infectious service would be a very extensive development upon the present system?—It would be extensive, certainly.

3774. You spoke of that last time, I think, as a 50 per cent. extension at least?—Yes, I think so.

3775. Possibly more?—Yes.

By the Chairman.

3776. That was the whole service, the whole transport?—Yes; in money, I should think it means 50 per cent.

By Sir William Collins.

3777. You have already very candidly told us that at the present time you entertain rather a different view as to an electro-mobile ambulance from that which you entertained previously?—Yes.

3778. You look upon it as a suitable means of conveyance now to be employed for the purpose that we are dealing with?—Yes, I do.

3779. I think there was some little misunderstanding in your answer to Question 958, as to whether the City ambulance had been formerly under your supervision or inspection, and we were told by Captain Nott Bower that that was an entire mistake. I do not know whether you wish to rectify that answer?—I do not know. I have no knowledge, but I had some reason to suppose that the chassis is the same and the body is a different one. But it is quite immaterial; I do not attach any importance to that.

3780. You said last time that an electro-mobile ambulance would not answer your purpose at the present time. That you desire now to revise?—I was then speaking of my Committee's attitude towards that ambulance. The main feature, I may add, was the fact that I was then speaking rather of the purposes for which we had experimented with it. Our present purpose is infectious work, and we go much longer distances than would be necessary in the case of street accidents. That is our difficulty with regard to an electric ambulance.

3781. Have you any electro-mobile ambulances yet?—No, we only tried that one and found that it did not do because of the long distances that it had to go and the difficulty of charging it, and so on. That was the Committee's objection at the time. I was then talking only of infectious work.

3782. With your present experience, what would you recommend as the ideal conveyance in London for the purposes of street accident conveyance, and for the infectious sick?—For street accidents, an electro-mobile ambulance. I do not include the infectious sick in that, because we go so much greater distances that I am not sure that it would be practicable. We cannot multiply our infectious-case stations, and there is no reason why we should. The horse-drawn vehicles or petrol vehicles answer the purpose perfectly.

3783. Then do I correctly understand that you contemplate a different form of ambulance for the purposes of the infectious sick from that which you contemplate for street accidents?—I do not know what may be the ultimate development of the infectious-case ambulance, but I certainly contemplate that with regard to the new stations, which we should have to erect for street accident cases, there should be solely electro-motors.

3784. And to complete that, would you, for the future development of the infectious service or replacement of the existing ambulances, recommend the same or a different kind?—I am not prepared to say that at present I should recommend an electro-mobile ambulance, owing to the greater distances which they have to travel.

3785. Then if an electro-mobile ambulance were instituted for the purpose of street accident cases, that would be a different system as regards the mode of conveyance from that which you do employ, and contemplate for the immediate future, at any rate, employing, for the purpose of infectious cases?—Yes, it would be a different motive power.

3786. Sir William Church, when he recommended the Metropolitan Asylums Board as the authority, in his answer to a question which was mentioned to you this morning, contemplated a large economy by carrying out that suggestion?—Yes.

3787. I gather that he also suggested that there would be a fixed tariff, which apparently he contemplated would in part, if not largely, pay the cost? Do you agree with that?—I do not know what he was alluding to in a fixed tariff. I suppose he meant for any services rendered privately for the removal of cases from their homes to other places, from place to place; that persons who could afford to pay should pay.

3788. I should like to have your opinion, as one well acquainted with London life, as to whether you think it would be practicable to require payment in cases of street accidents dealt with by ambulances under some representative authority?—Personally, I should not rely upon it at all as regards street accidents; I think you must contemplate throwing the whole of the cost on to the rates. A certain number of private removals of medical and surgical cases could, of course, be charged, and you would readily get a certain amount of revenue from that.

By the Chairman.

3789. That is the case at present; you do make a charge for them?—Yes, but we only charge a fee that is expected just to cover the cost.

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By Sir William Collins.

3790. I understand you rather to deprecate a statement, which apparently originated with Sir William Church, that if the Metropolitan Asylums Board undertook this work it would mean but little additional expenditure?—Yes; I cannot say that. I said it depended upon what you call little. I think that for an area of the size of London, and a community of the size of London, the additional expenditure might be described as moderate.

By the Chairman.

3791. You mean the additional expenditure that would be caused to the Metropolitan Asylums Board?—Yes.

By Sir William Collins.

3792. You are of opinion, as you told us this morning, that the stations would have to be increased in number?—Undoubtedly.

3793. You would not attempt to make the existing stations of the Asylums Board meet the case?—No, certainly not.

3794. I understood you to suggest that in adding these new stations you would follow the plan of the City ambulance station?—As at present advised, yes.

3795. And the size of the stations required for the purpose of housing electro-mobile ambulances would be much smaller than those for horse ambulances?—Quite so.

3796. And the site would therefore be less costly?—Certainly, the site, buildings, and everything else.

3797. I think you mentioned 10 as the possible number of additional stations?—Yes, that is a rough estimate only.

3798. Is that a maximum or a minimum?—A minimum.

3799. What would be the difference, if these 10 new stations were set up, between these new stations and the old stations, in connection with the existing stations of the Metropolitan Asylums Board?—Do you mean difference in construction?

3800. I mean any difference?—They would be wholly dissimilar. There would be no resident staff; there would be a tiny room by comparison. The room, I suppose, at the station in the City is about 24 feet long by about 15 feet wide, whereas one of our present stations is a station in which there are 30 resident officers and servants, and stabling for horses to the extent of 15 to 20, and the same number of vehicles, and residences for nurses, and all sorts of things.

3801. But *qua* a street accident service, each of these 10 new stations would be complete in itself?—Quite complete in itself.

3802. In that respect they would not differ from stations proposed to be put up in connection with your existing service?—No, they are complete in themselves too, but with a very much larger organisation, of course. It is a different thing altogether—it is not comparable.

3803. But *qua* street accident work, I gather that there would be very little difference?—*Qua* street accident work, they would compare with a small portion of an existing station which would be allocated to street accidents.

3804. What would be the advantage then in the old stations of having these street accident stations in close propinquity to your infectious-case ambulance service?—Do you refer to the new stations that I contemplate?

3805. No; so far as you propose to utilise the old stations for the purpose of street accident stations, what would be the advantage of having these street accident stations on the old sites in close propinquity to your infectious service?—The fact that they already exist, and that you could accommodate the street accident vehicles in the existing premises, and use the existing telephonic communication, which in some cases is expensive. I think those are the main advantages.

3806. Then it is largely the fact that you could use the piece of land which you have already got?—And the buildings.

3807. Would there be any disadvantage in the possibility of the staff of the two services mixing?—Personally, I think not.

3808. Would you advise putting up electro-mobile stations at these old stations?—I should not advise the putting up of any station. Do you mean employing electro-mobile vehicles in them?

3809. Yes?—Certainly, as we have to add to our stock. You realise, of course, that with our large stock of ambulance vehicles, they are perpetually wearing out and having to be replaced; and certainly for myself I should advocate that in providing any new vehicle for street accident work it should be of an electro-mobile type.

3810. Then the street accident service would really be a grafting on of a new type of ambulance to your existing service?—Not necessarily. I would begin by using the horse ambulances if it was desired; I would not throw them away recklessly and incur expense for the new type of vehicle.

3811. Dr. Downes told us that he could not dismiss from his mind the danger of infection by utilising the Metropolitan Asylums Board ambulances for the purposes of a street service?—Dr. Downes speaks with authority as a medical man. I am not a medical man.

3812. I think you told us that some of the new stations that you contemplate would probably do more street accident work than the stations at the old sites?—I think so.

3813. Especially those in what is called the accident area?—Yes, I think so.

3814. When you spoke of the telephone call that you have at present between the central offices and the stations as perfect, that of course did not include what I might call the summons for an ambulance from the site of the accident?—No.

3815. That at present is largely imperfect, is it not?—If you mean for the purpose of street accident calls, it is a thing that has to be organised. There is nothing in existence.

3816. Have you studied the City service of street calls?—Yes.

3817. Except as regards expense I gathered that you did not object to it for the purposes of the County of London?—So far from objecting to it I admire it; but it is expensive, or rather it would be expensive, in the County of London.

3818. I rather gathered that you contemplated something like what we saw at Manchester, that is to say, to utilise, if possible, well-known places where telephones were installed, which were open day and night and possibly on Sundays, too, for the purpose of the constable on the spot giving the summons for an ambulance—short of providing the City method?—What I contemplate is making use of the existing means, namely, all the existing call offices of the National Telephone Company and the General Post Office, which are nearly 3,000 now in number in the County of London, supplemented by a certain number of street call boxes specially installed for the purpose. I may say that I have reason to believe that both the General Post Office and the National Telephone Company would readily facilitate an accident call as they facilitate a fire call, so that there would be no loss of time at all.

3819. Returning for one moment to the question of infection, I think you told us that the precautions to be observed against infection would have to be different in different stations; you said that it would require consideration in each separate case?—That is as regards arrangements to be made for keeping them separate.

3820. In some stations it would be possible to have complete physical separation?—It would be possible in all stations, but much easier in some than in others. I mean that the physical separation would be wider.

3821. But you do contemplate complete physical separation both of matériel and personnel?—Absolutely.

3822. Is it easy when persons are all day long, perhaps, and possibly at night, too (I do not quite gather whether you suggest that), in immediate propinquity, to secure that they do not mix with one another?—Well they are the ordinary types of humanity. I do not know that I can answer for them.

3823. Are you not incurring a danger by having infectious and non-infectious-case stations cheek-by-jowl as it were, when it would be preferable to have them at any rate separated by some distance?—I should not have thought so. I should have thought the danger was inappreciable.

3824. Is it the case that in some of your Asylums Board Institutions persons admitted with one infection contract another?—Yes, that is not in the ambulance stations.

3825. With all respect, I did not suggest that. I said in your institutions?—Yes.

Mr. T. Duncombe Mann.

3826. Is it the case that every year many hundreds of persons are admitted with some infection, who, while they are under treatment, contract another?—Yes, in the hospitals.

3827. And they sometimes die of the freshly contracted infection?—I suppose they do.

3828. For instance, in 1907, I see on page 279 of your report, it is stated that of persons who were admitted with scarlet fever, some 248 contracted diphtheria?—Yes.

3829. And 341 chicken pox, and so on?—Yes.

3830. And similarly, of persons admitted with diphtheria, 293 contracted scarlet fever?—Yes, they contracted it in the wards.

3831. The danger of infection is a real one?—But they contracted it in the wards.

3832. I said, in your institutions?—Yes, but I must limit the word “institutions” to hospitals. I do not want any mistake to arise from my answer. I do not want it to be supposed that they contract a different disease in a place like an imbecile asylum, or any place other than hospitals.

3833. Still they were admitted with one infectious disease and did contract another?—Yes.

3834. Can you give us any information about the cost of the erection of your existing stations?—I cannot give them all, of course.

3835. I have before me your handbook?—Yes, I can quote from that. I have not brought mine.

3836. Will you kindly give us the cost of erecting the existing stations? For instance, the Eastern one cost £15,578?—Yes.

3837. Would you give us the cost of the others (*Handing the book to the Witness*)?—The North Western station cost £15,442, the Western £8,031 and reconstruction £4,111—total £12,142; the South Western £13,796; the Mead £34,949; the South Eastern about £15,400, that includes reconstruction and enlargement; the Brook £16,407; and Tooting Bec £15,067.

3838. I think the total is something over £120,000?—Yes, I daresay it is.

By the Earl of Stamford.

3839. The circumstances of the buildings of the Mead Station were rather peculiar?—Yes.

3840. That is exceptional?—Yes, quite exceptional.

By Sir William Collins.

3841. Have you estimated at all what the cost would be of setting apart and equipping separate stations for street accidents at these old stations?—I have not. I think it would be exceedingly little; but as I say, every case would have to be dealt with on its own merits. I have not had time to go into that.

3842. And on the basis of complete physical separation?—Yes, complete physical separation.

3843. I did not quite gather what your views were as to staffing the street ambulance? I gathered that you took no exception to the general principle you laid down, that there should be one authority dealing with the whole thing?—Yes.

3844. The staff as well as everything else?—Yes.

3845. And that it would not work well to have a policeman, under the Commissioner of Police, carrying out work for the ambulance service under the Metropolitan Asylums Board?—Not unless he were definitely lent and placed under the Board.

3846. It would not do, I think you said, to have an alien to the discipline of the Board?—Quite so.

3847. And, of course, the City case differs from the County case, because in the City it is a police service entirely?—Yes.

3848. Do you know of any example anywhere else in any large town in the United Kingdom where a non-infectious ambulance service and an infectious ambulance service are conducted on adjacent premises?—No, but I know of no case where the non-infectious ambulance service is not in the hands of the police; therefore it makes itself essentially separate.

3849. In those cases the police are municipal?—They are municipal, but absolutely distinct from the Health Department, always.

3850. Under the same authority, but a different department?—Under the same authority but an absolutely different department.

3851. Indeed, the Asylums Board is somewhat of an anomaly itself?—Oh, yes.

3852. It is rather a threatened institution?—So we all are.

3853. And am I right in saying that the Royal Commission on the Feeble Minded have recommended the transfer of a large portion of your work to the County Council?—I dare say. I have not read the Report.

3854. Have you seen that the present County Council carried a resolution suggesting the transfer of your ambulance service?—I have been reading resolutions of the County Council for swallowing us ever since I have been at the Asylums Board, and they have passed a great many resolutions.

3855. I wondered whether your attention has been called to a recent one passed by the present County Council in connection with the evidence prepared for the Poor Law Commission?—I think I saw that.

3856. Your Board, I think, is partly nominated and partly indirectly elected?—That is so.

By the Chairman.

3857. Has this question, since it has been suggested by evidence here, been under the consideration of your Board at all?—No, except that I have had a conference with the Ambulance Committee of the Board.

3858. And you have come here to give evidence after that conference?—Yes.

3859. That was recent, I believe?—Quite recent.

3860. After you were invited to give evidence, I mean?—Yes.

3861. Going back to the resolution of November, 1903, that resolution in terms excluded the case of street accidents?—It did, because the London County Council were then contemplating street accident work.

3862. Was that the reason for the exclusion?—That was the sole reason.

3863. You know of no other reason?—We did not wish to be competing with the London County Council.

3864. After that project of the London County Council came to an end, the reason for their exclusion would cease to operate?—Certainly; I think I may safely say that the attitude of my Board is certainly at the present time one of not seeking power for anything, but they are perfectly willing to do anything which the Legislature thinks fit to put upon them.

3865. When you spoke of probable friction between Boards of Guardians and the Asylums Board in the event of the whole of the ambulance work for London being taken over by the Asylums Board, I gathered that what you referred to was that what the Boards of Guardians would object to would be the suppression of their own ambulances?—That is what I meant. I do not think I used the word “friction.” I thought there would be jealousy if any such suggestion were made. Of course, if the thing were done they would have nothing to say. I may be wrong, but there always is jealousy. Nobody likes parting with anything.

3866. Supposing that some arrangement were made between the Police and the Metropolitan Asylums Board, and that in particular cases they should find it convenient to ask the Boards of Guardians for the use of their ambulances, would that give rise to any friction or jealousy do you think? There may be parts of London in which there is an available ambulance of the Board of Guardians which might occasionally be useful to the police in cases of street accidents?—I am rather inclined to think from what Mr. Thomson Lyon told you about the Westminster experience that they would not lend it. They could not lend it; it would be an illegal loan.

3867. Unquestionably, but supposing that difficulty were removed?—I do not suppose there would be any jealousy from a casual lending of that sort.

3868. Or even to arrangements for the use of their ambulances?—No.

3869. The police might arrange with them just as they arrange with you?—Yes. All I mean is, that so far as I see, in public life there is always an objection to having anything taken away from a body, on the part of that body.

Mr. T. Duncombe Mann.

3870. Then a word as to the separation of the two services. Supposing the case of a bad epidemic, say an epidemic of small-pox, or anything of that kind, and a very great run upon your ambulances, do you think the system would work in that case?—Yes, perfectly; we always keep a sufficient margin for that.

3871. You have a sufficient margin to meet any emergency that is reasonably likely to arise?—We have had about as stiff an emergency as it is possible to imagine, I think, in the sudden outburst of small-pox in 1893 or 1894. We were in a position of absolute quietude with regard to small-pox, and suddenly there sprang up in Marylebone a small-pox outbreak, and on one day we had to do an enormous amount of removal, each journey meaning nearly 20 miles of ambulance work. We actually removed 40 small-pox patients, each involving a journey of 20 miles, in a day, without any warning that it was coming. We are bound to have elasticity.

3872. Supposing you were also carrying on your non-infectious service?—It would not have made any difference. We must have elasticity in our infectious work.

3873. In other words, you must have a sufficient margin to meet any emergency that is likely to arise?—Yes, the work that can be done by an ambulance organisation of the dimensions of ours can be doubled by putting a little strain on the service for a short time.

3874. With regard to the question of payment, I understand that you would contemplate that there should be no payment for street cases—that it should simply fall on the rates?—I do not think there could be any payment. I think practically you would find that you could not recover it. Certain services come to be looked upon as municipal services, and it becomes impossible to obtain payment. I will give you an instance. When it was first provided that non-paupers might go into the fever hospitals of London, there was provision made by which the Boards of Guardians were responsible for payment in the first instance, but they were given power to recover the cost from the patient or his friends and relatives. In the working out of that it became practically a dead letter in many parts of London, so much so that in 1891, when they consolidated the Public Health Acts of London, they dropped out that provision and threw the charge on to the Common Poor Fund.

3875. Then you would not think it worth while from that point of view to say that if the police sent for one of your ambulances they should make payment for it and recover from the patient, except in cases of poverty?—Certainly not. And in London I would have no financial transaction between the two, because they both draw out of the same purse.

3876. It is not quite the same purse?—I think as regards London it is, if I may say so; there may be some trifling difference. I am aware that the Receiver for the Metropolitan Police District draws from outside, but then he gives value for his money outside; so that it leaves a nucleus of London service paid for by the London rate.

By Sir William Collins.

3877. A 5d. rate?—Yes. I am quite clear that it is useless to try and get any repayment out of the patient or his friends. I should like to add, if I may, that I think the entire cost is a very small matter when you consider what a large area and rateable value you are serving.

By the Chairman.

3878. Even if you could get it, it is hardly worth while doing it?—Even if you pay for the whole thing it is costing the ratepayers very little. I should say that it would cost the ratepayers of London relatively less to have an efficient ambulance organisation than it costs in large provincial towns like Liverpool and Manchester. Unfortunately the London ratepayer looks at the grand total, and is staggered with it.

By Sir William Collins.

3879. It is nothing like a farthing rate, for instance?—Oh, no. I believe myself it could be done on the lines I have indicated for an additional expense of capital outlay of something like (of course I cannot tie myself) £12,000 to £15,000, and an annual outlay of not more than the same amount. I should pay my capital outlay down out of the first rate, and then it would not be a farthing in the pound, and after that it would not be an eighth of a penny in the pound.

By the Chairman.

3880. Supposing that an entirely independent system of rapid ambulances were to be set up by some other authority and supposing everything had to be created *de novo*, do you think it would make a considerable difference in the expense?—It would cost a little more, because they would have to create a central office. I believe I could do it, by adding a couple of men for night duty, with my existing staff and with everything existing as it is.

By Sir William Collins.

3881. The greater part of the capital cost would be these additional 10 or 12 stations?—And the motors. I said before that I am not a suppliant for this service, but there seems to me an additional reason for not multiplying authorities, that in the turmoil of re-arrangement of London government, whenever it comes, whether the County Council is to be the grand authority for everything or whether there is to be any other authority at all, it seems to me that it would be disastrous to have more than one service for the whole ambulance work, whoever has it, and if it were grafted on to an existing service there it is ready to go to any authority that the government may think fit to determine shall be the authority.

3882. But you remember that in places like Manchester, where it is under one authority, it is, nevertheless, a different department?—I know. I do not want to say a single word against Manchester or Liverpool, but I am not at all sure that the organisation is quite as good as one might make it.

3883. Do you mean to say that the Manchester method of dealing with street accidents is inferior to the present method of dealing with street accidents in London?—I am not going to say a word about Manchester—I have not seen the Manchester system, but I am not at all sure that an organisation which deals with every kind of ambulance service would not be better.

By the Chairman.

3884. Is there not a broad distinction between Manchester and London, arising from various considerations—amongst other things the size of London? And though the Manchester Police deal more or less with the transport of the sick and injured generally, do you think that the Metropolitan Police, having regard to the multifarious character of their duties, could possibly do it or undertake it? Would it be practicable or possible to make the Metropolitan Police do the same work as the Manchester Police do?—I fancy that there is another objection in London. I think it ought to be a municipal undertaking. You see the police are not municipal in London, and I do not know, I am not very much concerned, as to whether things answer political considerations or not, but I fancy the modern theory generally is to give no fresh service to a non-representative authority, that whatever fresh obligations are put on the rates must be put also under the management of the ratepayers' representatives. I think that is a canon we have to observe.

By Sir William Collins.

3885. Direct representatives?—I do not say whether direct or indirect. Personally I should be perfectly satisfied with a single representative. I should not care how you appoint him so long as really he is a good one.

3886. Can you tell me of any place in the United Kingdom where the street accident ambulance service is better done than in the City of London at the present time?—No, I do not know of any.

FIFTEENTH DAY.

Wednesday, 16th December, 1908.

PRESENT :

Sir KENELM E. DIGBY, G.C.B., K.C. (*Chairman*).

The Right Hon. The EARL OF STAMFORD.

Sir WILLIAM J. COLLINS, M.P., M.D., F.R.C.S.

Mr. A. L. DIXON (*Secretary*).

Sir EDWARD HENRY, K.C.V.O., C.S.I., re-called and further examined.

By the Chairman.

3887. We want you to give us a little further assistance in our inquiry. A good deal has happened, of course, since you were here before?—Yes.

3888. We have had a great amount of evidence, and I think we may start with the assumption that there is a great body of evidence on the one side and very little, if any, on the other with regard to the introduction into the service, under certain conditions, of rapid ambulances—I mean by that horse or motor ambulances—for street accidents. The question that is pressing on the minds of the Committee more than any other is how a service of rapid ambulances could be introduced and what its organisation ought to be. The few questions I have to ask you will be rather on that basis. We have had one or two important suggestions made to us by witnesses, and I think we may say that the two most prominent suggestions brought before us are: (1) That the new service should be a police service, organised and managed by the police; and the other—I am thinking now of what has been put before us by other witnesses—is (2) that we should avail ourselves of the existing ambulances which are owned by the Metropolitan Asylums Board. I think that practically those are the two leading suggestions. I do not say that they are the only ones which have been put before us by witnesses. One very important question in connection with both of those is as to the character of the work which these ambulances would have to do?—Yes.

3889. It has been suggested that the ideal thing would be to have a complete system of ambulances for the whole service of the transport of sick and injured in London, whether from the streets or private places, factories, docks and so on, or from their own homes to hospitals or places where they can be treated?—Yes.

3890. And also we find that such a system does prevail to some extent in other places, especially in Liverpool, Manchester and (I do not know exactly to what extent) in the City of London; that is to say, that the ambulances which belong to the police authorities are utilised not only for street cases—by which I mean cases of accident or sudden illness occurring in streets or public places—but also for two other classes of cases. One of these classes is emergency cases, in which I include all sudden cases owing to accident or illness occurring on private premises, factories, docks, railways and so on; and the other class comprises cases which do not fall under either of those heads, but are cases of rheumatic fever, or other illness, where there is urgent need for removal to a hospital or some place where the patient can be properly treated. At present it is said there are practically no means, unless the patient is a pauper, of doing it. Now, as I said, to some extent the police in some places do undertake, I will not say the whole of that work, but at all events, cases of that kind. In Manchester, for instance, it is not thought at all outside the scope of the police to deal with cases of both the last two classes—emergency cases occurring in private premises, and ordinary cases urgently requiring transport. Now I will ask you in the form of a general question whether you see your way, as head of the police, to any system which might lead up to imposing upon the police the duty of dealing with those last two cases? You see what I mean? The matter of street accidents is another thing, and the only thing we are properly inquiring into,

but at the same time the question arises whether those can really be separated from the other cases, whether or not the ambulances should be utilised for the other cases too, and whether the police could undertake the task?—I have no knowledge of the number of cases of removal from private houses that would have to be dealt with.

3891. We have been told that they are likely to be very numerous. The evidence we have before us shows that there are a large number of accidents occurring in factories, railways, docks and so on. Taking only accident or emergency cases, keeping those separate, what do you say?—A good deal depends on the number of cases to be dealt with, obviously.

3892. You must assume, I think, that they are very numerous—far more numerous than street accident cases?—As you know, there is one organisation, the Metropolitan Asylums Board, that has stations, six I think, within a certain distance of Charing Cross, which are fairly well situated; but there is no other organisation of the kind in existence except such organisation as we have perfected. We have got now close upon 400 ambulances.

3893. Would you mind calling them wheeled litters?—Yes, quite so.

3894. We have found it convenient to keep the term “ambulance” for the vehicles?—Quite so. The only organisation other than the organisation of the Metropolitan Asylums Board is the Police organisation. We have none but wheeled litters. We have now about 400. When I gave evidence before the Committee before I said that we had about 340; now I believe we have about 400 as a matter of fact.

3895. What I mean rather is this: Supposing that you were to have the duty imposed upon you of supplementing those wheeled litters by, or, possibly substituting for them, rapid ambulances, horsed or motor, and supposing that there is great need for ambulances of that kind for cases other than street cases—that is to say, for cases belonging to the two classes I mentioned just now, emergency cases occurring on private premises and ordinary cases of illness requiring medical or surgical treatment at a hospital—would it, in your opinion, be within the functions of the London police to undertake the transport in their rapid ambulances of cases belonging to those two classes?—This would be placing upon the police a new duty, but if the principle be approved there would be no difficulty in arranging for it. It is only a question of money.

3896. It is a question of money, and a question of the duties of the police to some extent; that is to say, a question of the number of additional police that would be required, and whether or not it would be too great an addition to police duties?—The cost of the police so employed could be allocated to that special head. There would be no difficulty about that.

3897. Yes, but what I want you to face is the question of the magnitude of it? The police, I suppose, are fairly hard worked now?—Yes. We should have to have extra men, of course, for it, and practically a separate establishment.

3898. Would that depend at all on the magnitude of it—I mean to say, the number of police required?—I do not

Sir Edward Henry.

think that the number would be so very large. The real cost would be the cost of the street signals. That is the main factor, and far and away the most expensive item. For instance, take the City. They have an electric ambulance there and they get, roughly, about 1,700 cases in the year. According to the statistics which I put in, about half the cases that are taken by the police to hospital are detained there, so that about 850 of those would be sufficiently serious to be detained at the hospital. That would mean rather less than three calls a day in the course of the year. There would be three drivers and three attendants, and they would only get about three calls a day at the outside, and a call does not occupy them much more than ten minutes, I think they have told you. So there will be half an hour's work in the 24 for these six men. That in itself is a very expensive arrangement, and rather a wasteful arrangement. I would like to have more time to consider whether it would not be possible to work more economically by using the men we have on reserve at the station. Supposing the reserve man to be trained in First Aid—and most of our men are trained in First Aid—it might be possible to utilise him and let him go away for the ten minutes, somebody else doing his work—in that way saving the cost of a whole-time man. I could not say straight off, but I should think that that is worth considering.

3899. Have you read Mr. Mann's evidence?—Yes, I have read it, but it is not very clear in my memory.

3900. I mean Mr. Mann's evidence given a fortnight ago?—Yes. I think that that is the one I read.

3901. He gave us a sketch of a system which he outlined, based on the principle of the utilisation of the non-infectious service of the Metropolitan Asylums Board?—I did not quite gather from his evidence whether that point was cleared up about the great danger of infection if you keep the ambulances in the same yard. That is a serious consideration. I think you would require to have them quite separate.

3902. Quite separate?—I should be greatly afraid of that myself. It seems to be a medical point and I am not a medical man.

3903. He also suggested separate stations?—Yes.

3904. Eight or ten new stations in the County of London, of the type of the station at St. Bartholomew's Hospital?—Yes.

3905. Ambulances might be kept at these separate stations and a proper system of signalling established, and these stations utilised both for accident cases and for other cases too—non-infectious cases I mean, of course?—Yes.

3906. That service to be kept wholly separate from the service for infectious cases?—Of course it is quite feasible.

3907. You say that it is quite feasible? It turns, I suppose, first on the question of staffing? Supposing, for instance, that you, as the Commissioner of Police, and the Metropolitan Asylums Board were to settle the position of stations for rapid ambulances, there would be no difficulty about that, I suppose?—No, none whatever.

3908. Then as to staffing. I think that according to Mr. Mann it would require two men to be in attendance—one the driver and the other the man who has to go with the ambulance?—Yes.

3909. Assuming that it is necessary to send an attendant at all?—Yes.

3910. He would be a person skilled in First Aid, who had received advanced training in First Aid, and he would go with the ambulance? The calculation is that each station would have to be served by six men on eight-hour shifts?—Yes.

3911. Assuming that the driver was provided by the Metropolitan Asylums Board, do you see, from the police point of view, any objection to providing a police officer as attendant?—Yes, the greatest possible objection. Under whose discipline is he to be?

3912. That is what I was coming to. I do not know whether you saw what Mr. Mann said about that—that the attendant should be subject to the control of the Metropolitan Asylums Board, as a servant of theirs, while he was on duty at the ambulance station?—I could not be responsible for the man's conduct if he is not under my control. Most of the time he would be doing nothing, kicking his heels, and I should be very much afraid of his getting into mischief.

3913. Then you do not think that is feasible?—No, I do not think that it is feasible. But is there any reason why they should not appoint their own men? Then the

other point that comes up is what the constable on the beat, who deals with the accident in the first place, is to do? Is he to render First Aid, or is he to wait for this special man to come and render First Aid?

3914. I am coming to that presently, but I am now on the other point. Then you would not approve of a police constable being stationed at any station, whether one of the principal stations or one of the proposed new stations, unless he was entirely under police discipline?—He must be under police discipline the whole time. As you know, when police are sent even to a Royal Palace they are still under police discipline. I think the suggestion put to me would only end in the whole scheme coming to grief. Even in the interest of the Asylums Board I should not agree.

3915. You think that if the Asylums Board provide the new stations they should provide not only the driver, but the attendant?—Yes.

3916. Now in the service established by the Metropolitan Asylums Board there is already, I understand, a complete system of signalling between their head-quarters and their other stations, and there would be very little difficulty in extending that to any new stations; so what would remain would be the question of how the constable on the beat would, when cases arose, summon the ambulance. Have you any suggestion to make about that?—You would require a system of street signals connected with every central station. I do not see how you could do it otherwise. I do not know what the cost of the street signals would be, but I understand that in the City they are put down at about £5 a year each.

3917. The figure which Mr. Mann gave was £6?—The average distance from any street signal to Old Jewry (and all these signals are connected with Old Jewry) I understand would be about half a mile, the City being about a square mile. I suppose that you are contemplating the Administrative County area?

3918. Our reference is only as to the Metropolis—the County of London?—That is what I mean. That represents a radius of six miles, roughly; so that the wires on the average would have to be about six times as long and that would make it more expensive—I do not know how much more expensive—but it seems to me that it would be very much more expensive.

3919. You mean to have a number of street signal boxes on the same lines as in the City?—Supposing you had four central stations with sub-stations, which, probably, would be the most effective and economical scheme—one for the north, one for the south, one for the east, and one for the west, and the stations were served by a system of street signals, the wire connecting each of those signals with the central office would, on the average, have to be five or six times as long as the wire which connects the street signals in the City with their central station. I do not know, but it would cost a good deal more than £6 per signal, I should think. That is a matter for enquiry.

3920. You probably saw what Mr. Mann said about that?—I do not know whether he had considered that point or not.

3921. Not that particular point, but he said that he thought that the expense of a general system of street signal boxes would be prohibitive?—That is a very important point with regard to making the thing a success.

3922. Supposing that the conclusion was that it would not be practicable, on the ground of expense, to have a system of street signals all over the area, could they not be placed only in certain places where accidents were most likely to occur? Mr. Mann spoke about that?—That could be done, certainly.

3923. You would rely, as they do in some places, on the ordinary existing means—that is to say, on getting the use of private telephones and on using public telephones? Would that be sufficient?—I fear that occasionally there might be great delay in regard to the use of public telephones.

3924. We are told that the Post Office would probably give facilities?—They would give facilities, but even so there might be delay.

3925. There is no great difficulty, is there, until you get to the question of communication between the constable on the spot and the ambulance stations? If the constable on the spot could communicate with his own station the message could be got through at once?—Yes in all probability.

3926. The difficulty is really that of communication between the constable on the spot and his own station?—

Sir Edward Henry.

Yes; sometimes he is a considerable distance from the station, and that is the difficulty. I could tell you the area of some of the principal stations, if that would help you. You can get a very good idea from that.

3927. Yes, it certainly would help us if we could have that drawn out?—We have it approximately.

By Sir William Collins.

3928. What is the number of stations?—In the administrative County?

3929. Yes?—I could not tell you straight off about the Administrative County, but altogether there are 180 odd stations.

By the Chairman.

3930. If you did establish a system of signalling would the simplest plan be for the police constable on the spot to communicate with his own station? I suppose that is practically the only feasible way, is it not?—I think that it would be so unless there were street signals such as you have in the City. In the City the constable goes to the signal and communicates not with his own particular station, but always with the central station at Old Jewry. A disc falls, and they at once know that there is a call for the ambulance from a particular signal box.

3931. As you say, the area is so very much smaller there?—Quite so.

3932. It may be measured by yards almost?—Yes.

3933. It would be difficult, would it not, to organise a system under which the constable communicated directly with head-quarters? The call would probably have to go through his own station?—You could easily have your signal boxes connected with some central station. There is no difficulty in that. It is only a question of cost.

3934. Yes, but still the question of cost is a considerable one is it not?—Then it is important that the call should be answered immediately. I do not know whether I could rely on their always immediately answering a call at a police station; they may be engaged in taking a message from somewhere else and so on. If you have a system at all you ought to have a system that will ensure immediate attention, and I do not know how you could secure that if you sent the call through the local station, when the line might be already engaged for an urgent message.

3935. The system which you have at present is organised in that way, is it not? There is communication between the stations and each station is in direct communication with Scotland Yard, is it not?—Practically. It is not in direct communication with Scotland Yard, but it is in communication through other stations. All the stations are not interconnected. They have to make a circuit to talk to another station. Anything else would be too costly.

3936. With regard to the system in which the ambulances would be provided by the Metropolitan Asylums Board, the place that you want to get into communication with as speedily as possible is the headquarters of the Metropolitan Asylums Board?—Yes.

3937. They would be in direct communication with all their stations and they have an abundant staff, and the matter could be dealt with at once? The question is getting into communication from the scene of the accident? With regard to Scotland Yard, when the signal got there it could be passed on at once, I suppose?—Yes, it could be passed on automatically. They could arrange that.

3938. Do you see no other system for getting into communication with Scotland Yard but a number of street boxes? Is that the only way?—I do not know of any other.

3939. The alternative is utilising the ordinary means?—Yes.

3940. You think that there would be delay in that?—Yes, certainly, there must be some delay.

Mr. Temple West wrote to this Committee, I think?

3941.—We have been informed of his offer of an ambulance?—He came to see me once or twice. I have written to the Home Office and they will probably approve of the proposal that he should present an ambulance to be used in Southwark in the Borough or anywhere else that we think fit, the stabling accommodation to be provided by us and the cost of the men who work the service by him. I think that by the end of a year we should have some valuable experience to go on. He has offered £1,500

and with that, I think, we could buy an ambulance and keep it going for some time. We should not be able to keep it going throughout the 24 hours, but we could probably keep it going for 16 hours out of the 24, depending on the existing system during the remaining 8 hours—from 2 in the morning until 10, or from 1 to 9, during the quietest traffic hours, so as to save the establishment expenses and extend the experiment over a longer period.

3942. Would that be a horsed ambulance?—No, a motor ambulance; but we have not decided whether it should be an electric motor or a petrol motor. It comes to this: Our statistics (*see Appendix II.*) show about 11,000 cases of accident or sudden illness in the streets, and, assuming that the cases which occur of which we have no knowledge are 50 per cent. more, the total would be under 18,000. Three-quarters of these occur within the four mile radius—that is to say, within an area of about 50 square miles. That would leave only 4,500 cases for the remaining 650 square miles. Our statistics also show that of the cases taken to hospital, rather less than half are sufficiently serious to require detention there. So that of the number of serious cases that may be expected to occur in the 650 square miles outside this inner circle radius, there would only be about 2,250 that would be serious. That comes to about six a day for the whole 650 square miles. It is a question for you to consider whether, having regard to the enormous cost that would be involved in providing a proper system of quick ambulances for that outer area of 650 square miles, six cases a day would be sufficient to justify it. I am only theorising.

3943. Exactly. Is there anything else you would like to add?—My object in putting these figures before you is to point out that it will be well to concentrate attention upon this comparatively small area of 50 square miles in the heart of London. The cost of having street signals, although it would be very great, certainly would not be as great as is contemplated by Mr. Mann. Something might be done. Supposing that you took a three-mile radius you would find that rather more than half the cases occur within that—which, of course, is very much smaller.

3944. On the other hand, there is this to be said, that although the cases in the outside area are less numerous the distances are so very much greater?—Very much greater, both to the ambulance and to the hospitals.

3945. So that those places are really in more need of a rapid ambulance service than is a crowded area?—Yes; but it comes to this, that there is hardly one case a day for every hundred square miles, and the difficulty would be to know where to put your signal boxes if you had them in the outer area. They would have to be at great distances apart. There is no doubt about it that it is a most difficult problem. Still, to take a big town like Croydon, for instance, you might well have a subsidiary system there. Croydon has a population of a hundred and fifty odd thousand people.

3946. Now I go to another point and that is the question of First Aid instruction to the police. At present the only regular First Aid instruction given to the police by the authorities is that given to recruits?—All recruits have to go through this course whether they like it or not.

3947. Yes?—In addition to that, you will find that there are over 10,000 men who have undergone a second training for the Certificate of the St. John Ambulance Association or the London County Council Certificate. They go up for it of their own accord. We do not compel them to do so.

3948. What do you say as to making it a part of the regular police discipline that all police officers should go through the advanced courses?—We have now 10,000 men who have done so. Very nearly three-quarters have gone through of their own accord.

3949. Yes; but still, there is no guarantee at present that the particular man who has to deal with an accident in the street has gone through the course?—We could get many more to go up if we could spare them, but we cannot spare them. We can only allow a certain number at a time to go up. These men do their regular eight hours' duty in the streets and we cannot spare more than a limited number of them.

3950. Therefore, if it was made part of the regular police organisation that they should give the time, whatever it is, that is required for these courses, it would require an addition to the force?—Yes, certainly.

3951. It is very general in other police forces, is it not, that all police constables should go through an

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advanced course of training? That is the case in the City, it is the case in Manchester, and it is the case in Liverpool, and it is the case elsewhere. You say that having regard to their eight-hour service, if it was made part of the police discipline that they should go up for advanced training, it would be a serious addition to their work?—A great deal depends on the length of the course. I do not know how long it would take. How long do you contemplate the second course of instruction would take?

By the Earl of Stamford.

3952. Twelve lectures we were told?—Our chief surgeon said, I think, that he was not quite in agreement with the instruction that was given. He thought some of the time wasted in teaching them how to apply a tourniquet, for instance.

By the Chairman.

3953. He wished for a modified syllabus?—For something which would be simpler and more practical.

3954. Adapted more to the wants of the police?—Yes, that is what he told me.

3955. Would that be quite easy to arrange with the present authorities?—I am sure that if the Chief surgeon conferred with the County Council they would modify their syllabus accordingly. It could be quite easily done.

3956. The chief surgeon was in favour of retaining the advanced instruction as well as that which recruits have in the hands of the police?—It would be very costly. Twelve lectures would mean at least two hours for each, including going and coming, and the lecture itself. That is 24 hours, or three days. Probably it would be more. Half a tour of duty is four hours, during which time the constable would necessarily be replaced. Twenty-four hours of instruction would represent six half-tours of duty. That would be very costly. We calculate that if you gave one day's rest in seven, or 26 extra days annually, it would cost the Metropolitan Police Fund over £180,000 a year—nearly £200,000. So that to provide compulsorily for so long a withdrawal from duty would be very costly applied to a very large body of men. We are over 18,000 strong now. The County Council help us very much by giving instruction for nothing practically. I do not think we could throw away such a substantial boon as getting instruction for nothing.

3957. You would not like to undertake it?—We could not, it costs such a lot of money. What is being done now works very well. The fact that 10,000 men have gone up of their own accord to get the further training is something.

3958. The chief surgeon contemplated its being done by your own divisional surgeons?—Yes, but even so, they would require to be paid for it. I expect.

3959. Suppose that you had three or four divisional surgeons to give this instruction?—I do not see how they could manage it because it is such a very large area to travel over. They would have to do nothing else. One instructor cannot undertake a class of more than 20 or so.

3960. Supposing that a system of rapid ambulances was introduced, the idea being that the ambulance was to be summoned when, either because of the distance that would have to be traversed to the hospital, or the gravity or apparent gravity of the case, it was not desirable to send the person in a wheeled litter, or, still less, in a cab or something of that sort, do you think that you could safely leave to the police constable the responsibility of selecting the mode of conveyance and deciding whether he should send for the ambulance or not?—It would all depend on his diagnosis. I do not know whether he is competent to make a diagnosis. In many of these cases he is not really competent to do so, I should think.

3961. Some of the witnesses have said that he might be given certain general rules to go by, especially with regard to the part of the body that was injured and so on, and that he ought to be told that the presumption should always be that the injured person, if not obviously able to move and look after himself is injured, it may be seriously, and must be conveyed by the ambulance. In your opinion, would that be imposing too great a responsibility on a police constable?—One of the real difficulties is that the constable is not always free to exercise his own judgment. A crowd comes round and says: "Why do you not take the poor creature to a hospital?" "Shame, shame, shame," and so on. A van driver offers the service of his van, or, if there is a hand ambulance close by, somebody runs and fetches it. If the constable detains the case for the arrival of the

rapid ambulance he requires a good deal of moral courage to resist the pressure from bystanders.

3962. The answer to that, and a very powerful answer in my judgment, is that if the public knew that there was a rapid ambulance available which could be sent for, they would become familiarised with the idea, and, as has been the experience elsewhere, they would understand that the proper thing was to wait for the ambulance to come?—We could always give instructions and they would be carried out to the letter, but whether the constable would act rightly or not in each instance, under all the circumstances of the case, it is very difficult to say.

3963. Supposing that you had a choice between a wheeled litter and a rapid ambulance, the vehicle which you would choose would depend, would it not, on two things, partly on the distance, and partly on the character of the injury?—Quite so, but mainly on the distance, I should think. I suppose that the wheeled litter—the hand ambulance—is quite suitable for most cases, but it does not go fast enough. Is not that the view?

3964. Speed is one thing, but only one of several things?—Supposing the hospital is only a quarter of a mile away, one of these existing wheeled litters is quite a suitable mode of transport, is it not, for conveying a case to hospital?

3965. Some people say not, and say that they ought not to be used at all?—We would be very glad to see a more rapid means, but our chief surgeon advises me that the litter is a very good form of transport. I am not an expert and cannot say. We go on improving it, and now I think it is as good of its kind as we can get. The question is whether you should wait for 15 or 20 minutes for a fast moving ambulance, or whether you should put the person into the litter that is at hand and get him to hospital long before the other thing could turn up at all.

3966. The idea is that with a perfect system of signalling and so on, you would get the rapid ambulance quickly?—Then we would always use it in that case. I thought you were putting one of the exceptional cases to me.

3967. I am supposing that the rapid ambulance is introduced gradually and that at first there is a choice between the two modes of transport. A good many witnesses have said that they would like to see rapid ambulances introduced to take the place of the wheeled litter as quickly as possible, if it is not practicable to supersede the wheeled litters all at once. Then there would have to be at all events a time when the constable on the spot had to exercise his judgment as to whether he should send for the rapid ambulance, or whether he should avail himself of the wheeled litter or such other means of conveyance as are available?—I have no doubt that we could easily work out some system of direction to the police which would enable them to deal with most cases in a way which would be suitable under the conditions. We would know the distance of each beat from the nearest call place, and we would know the distance of the motor ambulance from there and so on. It would be very easy to make a rule to say: "Whenever an accident occurs on your beat you must send for the rapid ambulance." We could do that. It is only a question of detail. There is no difficulty about it, I think. It would be elastic. If they introduced more of the rapid ambulances, or made them more accessible, we could include other beats within the scope of the instructions to send for the rapid ambulance.

3968. I think that since you were here before a revised Order has appeared—the Police Order of 4th February, 1908 (*Appendix IV*)? That begins by adopting the phrase of the previous Order: "(1) When persons come into the hands of police, whether as prisoners or otherwise, and there is any indication or reason to suspect that they may be ill or suffering from injury, the divisional surgeon, or in urgent cases the nearest doctor, is invariably to be called to examine them, although the persons themselves may make no request for medical attendance. (2) In dealing with persons found ill or injured in the streets, the action of police must be guided to some extent by circumstances." Then it goes on to give directions. Now, by the words "when persons come into the hands of the police," what do you mean? It says "whether as prisoners or otherwise," would that apply to the case of a person injured in the streets?—Yes, certainly.

3969. In an urgent case the divisional surgeon or the nearest doctor is invariably to be called to examine the person? That imposes on the police the duty of sending for the divisional surgeon or the nearest doctor?—Yes.

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3970. Does the rule still exist that in ordinary cases the policeman ought to send for some doctor near the spot?—Yes, in the case of an accident. We put in figures to show that in over 2,000 cases we had called in the nearest doctor. (*Appendix II., Tables (C) and (D).*)

3971. We were told that it was a considerable number, but one of the superintendents called here said that they very seldom did it?—He was wrong, evidently, because the figures prove that it is very largely done. It was the superintendent of the Holborn, the E Division, I expect. There are three hospitals on his Division besides infirmaries, and three hospitals just off his Division.

3972. It seems a little inconsistent, because the order goes on in the next paragraph to say this: "Obviously in serious cases the first consideration is to obtain medical aid for the sufferer; in inner London, therefore, where an ambulance is close at hand and hospitals accessible, prompt removal to the latter by ambulance is the safest course." Now, is the constable to send for the doctor under paragraph (1), or to get the person into the ambulance and send him to the hospital to be treated there, under paragraph (2)?—If there is a doctor close at hand he calls that doctor, and if there is no doctor close at hand he puts the person on the ambulance.

3973. The first paragraph says that in urgent cases the divisional surgeon or the nearest doctor is invariably to be called?—Yes.

3974. Then the next one is: "Obviously in serious cases the first consideration is to obtain medical aid for the sufferer; in inner London, therefore, where an ambulance is close at hand and hospitals accessible, prompt removal to the latter by ambulance is the safest course." Do you not think that those two paragraphs are a little inconsistent?—I think that the first paragraph applies to cases at the stations, and the other paragraph applies to cases in the streets. That is the explanation. The beginning of the second paragraph is: "In dealing with persons found ill or injured in the streets."

3975. Now, passing to another point, when you were here before you spoke of a difficulty about finding sites for the wheeled litters?—Yes.

3976. It has been suggested in a communication that I have received from the Receiver that that might be met by an amendment of the Metropolitan Police Act, 1829, which enables you to set up watch boxes in the streets, or as you now call them, I think, fixed point boxes, giving similar powers with regard to stations for wheeled litters. There are a number of fixed point boxes, are there not, chiefly in the suburbs?—Yes.

3977. Would they in any way assist the signalling?—Some of them would assist very much where they are connected by telephone with the station.

3978. Are many of them connected by telephone with the station?—A good many of them are, and, as the station is connected with the Central Office, in that way they would help very much.

3979. You have already spoken about this offer of an ambulance which has been made to you?—Yes.

3980. Do you see any reason why you should not take advantage of any offers of that kind, or of any ambulances of the Board of Guardians which might be available?—I do not know whether horses are always available in the case of Poor Law ambulances.

3981. We understand that there are different arrangements about that?—I think there would be great delay. I have not inquired into that, but I doubt very much whether horses are always available.

3982. Guardians' ambulances might to some extent meet the needs if you could make arrangements with the Guardians for the use of their ambulances, and supposing that you were satisfied that they were suitable and available?—Would they be prevented now?

3983. They cannot use them now for anything except destitute poor or emergency cases where there is great need. However, you have not considered that suggestion?—No.

By Sir William Collins.

3984. May we take it from what you have told us this morning that you attach great importance to securing unity of organisation as regards the staff, whatever may be the authority that deals with the ambulance service, that is to say, that you would not approve of the suggestion of a police officer working under the Asylums Board?—No. I think that it would certainly lead to

friction. You could have a scheme by which the constable would be responsible for the case until the ambulance came up and then, the moment the patient is put in the ambulance, the Asylums Board would be responsible for the patient.

3985. The suggestion that was put before us was that a person connected with the police service should be engaged in connection with the ambulance station?—I cannot conceive any advantage in that at all.

3986. I think you suggested that there would be disadvantages?—Yes. I certainly cannot see any advantage in it.

3987. I understood you to suggest that in your opinion there might be great danger of infection by utilising ambulances dealing with infected persons for the purposes of street accidents?—I only suggest that there might be. I am not competent to express a strong opinion on the subject, but it seems to me that there might be.

3988. Have you had any occasion to study further, since you were here last, the City Ambulance Service?—No, I have not. I do not know whether they have had any breakdowns or not. That is a very important point. They ought to have one ambulance in reserve, of course. It does not give the system a fair trial to start with one only. You want one in reserve to provide for breakdowns.

3989. Have you seen the reports of the Police Committee of the Corporation?—No, I have not.

3990. Have you heard that it is claimed that it works admirably?—It ought to. If a machine like that breaks down it is a very serious matter. It may be several hours before it is put right.

3991. But on the subject of breakdowns, I suppose we should apply rather to the City Police than to anybody else?—Yes; but you asked me whether I had heard of any breakdowns.

3992. I understood you to say that the system of street signals somewhat after the fashion of those that they have in the City would, in your opinion, be preferable to utilising public or private telephone wires?—I think that it would be more effective but very much more costly.

3993. In the event of street signals being utilised in any degree, do you suggest that the communication should be first to the station of the district or to some central station supervising the ambulance service?—I think that it would be better to have it to the central station supervising the ambulance service.

3994. I think you said that you would advise the Committee to concentrate attention on what you called the central zone or area of 50 square miles?—Yes.

3995. Do you mean that a rapid ambulance service worked by street signals might more suitably be made applicable to that area?—Yes, because it is feasible in view of cost; whereas, applying the system to the whole area would probably be altogether too costly.

3996. Then you would doubt the wisdom or prudence of applying the system of the rapidly moving ambulance with street signalling to the outer zone?—Yes. Having regard to the number of cases that occur there, I do not know that the expense could be justified.

3997. I think you said that you had no fault to find with the system of instruction supplied to police constables by the London County Council?—None. We are most grateful for it.

3998. Would you agree with Mr. Dent that the syllabus is not other than very good?—Mr. Dent is much more competent to speak than I. He suggests a little modification of it, that is all.

3999. He said that it is not other than very good?—I am sure it is excellent.

By the Chairman.

4000. I think that everybody agrees on that?—Yes.

By Sir William Collins.

4001. As regards the Police Orders, when you were before us previously I asked you some questions as to whether cases of injury to the lower extremities and so on were allowed to be conveyed in cabs, and I think you told me that the instructions were that they should not be so conveyed?—The instructions are given, I think, when they go through their course and there is something on the subject in our Orders.

4002. Am I not right in saying that it was not in the Orders (*Appendix III.*) when you gave evidence before

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us in May, 1907, and that it is in the Order of February, 1908?—Seemingly then we have profited by your question. It is really given in the instruction at the First Aid classes.

4003. In the Order issued on the 4th February, 1908 (*Appendix IV.*), I see it is stated: "In cases of insensibility, or of any injury to the head, or internal injury, or of fracture of lower limbs, or where any such injury is suspected, a cab is a very unsuitable means of transport." Do I understand that this Order has been published or not?—It has been provisionally published.

4004. Does that mean that it has been issued to police constables?—It has been published in the Police Orders and is accessible to them. It is not in their Instruction Book because no fresh edition has been published, but they read these Orders, or they are read out to them—that is the way in which we communicate instructions to the police.

4005. Would the instruction that the police constables on the spot act on now be that of the 4th February, 1908, or the earlier one of 1906?—The one of February, 1908.

4006. I see that in the last report of the Commissioner of Police, that is for 1907, a table appears on page 35, giving a comparative return of the number of accidents known to the police which occurred in the streets during the years 1891 to 1907 and by which persons were injured. From that I gather that the number has largely increased during those years?—I do not know. I should have to look at the table.

4007. In 1891 the number of accidents in the streets by day is given as 4,756, and by night, 881, making a total of 5,637. For the year 1901, the figures are 7,995 by day and 1,202 by night, making a total of 9,197. For last year, 1907, they are 14,323 by day and 2,449 by night, making a total of 16,772. That shows that there has been a great increase in the number of street accidents in London?—Yes.

4008. I understand that you are going to accept this offer made by Mr. Temple West of a motor ambulance for Southwark?—I have recommended the Home Office to accept it.

4009. May we take it that you think that the necessity for a rapid ambulance service has been established?—I am anxious to give it a trial at somebody else's expense.

4010. I understood you to say, in answer to the Chairman, that you would be very pleased to see a rapid ambulance service set up?—Yes. Without revising my already expressed opinion as to the working efficiency of the present system of litters properly carried out, I should welcome a scheme which provided rapid ambulances. It is all a question of cost, of course.

4011. I think, in reply to the Chairman you stated that it was hardly fair to expect the police constable on the spot to make anything like a diagnosis of the case?—To make him responsible for an accurate diagnosis.

4012. It would not be fair to expect that, of course?—No, we do not always get it from doctors.

4013. That is perfectly true: I am painfully aware of that fact?—So that you cannot expect it from a constable.

4014. Then you agree with me that it would not be fair to expect it from a constable?—Quite so.

4015. And it would be difficult to hold him responsible with regard to the choice of the mode of conveyance to the hospital?—What do you mean exactly by holding him responsible? He would be responsible for carrying out his instructions. As I said, it might be possible to give him instructions that under certain conditions he was always to send for this rapidly moving ambulance.

4016. Would it not be better for the constable to have as little variety of choice as to the mode of conveyance as possible?—Quite. He very often has to have whatever is available, of course.

4017. But if a system were available by which a rapid ambulance might be obtained by telephone signalling in a short time, and the public were familiarised with it, the variety of choice then left to the constable would be almost *nil*?—The constable would be only too glad to be relieved of any responsibility. He would say: "My instructions are to send for the rapidly moving ambulance. I have done it, and I shall keep the patient here until it comes."

4018. It would reduce the unpleasant possibilities of interference by the crowd?—I should hope so, but I cannot answer for the crowd.

4019. We were told that in the City the institution of the rapid ambulance is superseding the wheeled litter?—They have only to give instructions and it will be entirely superseded. If the Watch Committee want it done the rapid ambulance will entirely supersede the wheeled litter.

4020. With the result that time is gained in conveyance to the hospital?—That I do not know.

4021. That is what we are told. Mr. Dent called our attention to the handbooks "Duty Hints" and the "Pocket Directory," issued to the police in connection with the instructions. I think he said that he was not responsible for the information contained therein?—He would not be responsible for most of it.

4022. So far as it relates to medical and surgical advice?—I suppose it is a reproduction of what we had from the Chief Surgeon, his predecessor. None of our instructions with regard to First Aid or anything else of that kind are drawn up by us. They are always drawn up by the Chief Surgeon for the time being.

4023. Mr. Dent informed us that, except in one case, he was not asked to advise in the drawing up of the new instructions. At Question 3523 I asked him: "May I ask whether you have had any hand in drawing this up?" And he said "No, only one paragraph was referred to me." He rather repudiated some of the medical and surgical advice given?—These instructions are the same as those formulated by the St. John Ambulance Association, but they ought to have been referred to the Chief Surgeon before being issued, that is quite certain. These directions are not so simple as they may seem. For instance we have decided to adopt the Schaefer method of resuscitation. We went to great expense in regard to diagrams and letterpress and everything else which were all prepared for us. But when Professor Schaefer saw them in print he said he did not quite agree with some of the details of the instructions. We had to cast all this aside and go to the Home Office and ask for sanction to do the thing again.

4024. Dr. Downes, when he was here, told us that there was some question with regard to the use of infirmaries, so called, as places to which injured persons can be taken where hospitals were not available. He told us, in answer to Question 2946 and some following questions that some of the places appearing in the lists given to the police were not infirmaries but workhouses, where no medical skill was available if persons were taken there. I do not know whether your attention has been called to that?—No.

4025. He said that there were eight places put down as infirmaries to which injured persons might be taken, which were in fact workhouses and were not equipped with the necessary means for dealing with such cases. I was going to ask you whether they had been removed from the list that is now provided for constables' use?—I have never heard of this before.

4026. If those places are included in your figures showing what accidents occurred within a certain distance from a hospital or infirmary, to that extent the figures would require qualification?—Yes; but it would not make much difference in the percentage.

4027. It is eight institutions?—But the distances given in the Return are those to the hospital to which each case was in fact taken.

4027A. At any rate it would be wise to remove them from the list if they are not places that ought to be regarded as alternatives to hospitals for the treatment of injured persons? You will probably agree.

4028. Do you wish to give any opinion or advice to the Committee as to whether the Asylums Board or the police or any other authority should be the authority for dealing with the ambulance service in London?—No I do not.

4029. Do you desire to suggest any reason to us why we should not adopt the method adopted in Manchester whereby the police deal with the ambulance service?—No.

4030. The Metropolitan Asylums Board is a somewhat anomalous institution is it not? There is no analogy for it outside London?—I really do not know. Do you mean that there would be no means of their dealing with cases outside the County of London?

4031. No. That a body neither strictly municipal on the one hand nor strictly police upon the other, such as the Metropolitan Asylums Board, has no analogue outside London?—That is quite likely.

4032. I will say within the United Kingdom. You said when you were last before us that the policy of the police, so far as the provision of ambulances for London

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was concerned, was the extension of the wheeled litter service?—Yes.

4033. And I think you said that you have added considerably to the number since you were here last?—Yes. We go on adding.

4034. The advice which you have given with respect to the offer by Mr. Temple West at any rate implies that you are not unwilling to adopt the rapidly moving ambulance?—Not at all unwilling.

By the Chairman.

4035. With regard to policemen in the ambulance stations, I do not know that we have made quite clear to you what was the view of some of the witnesses who have been here—that it was proper and right to send with the rapid ambulance a person who had attained a certain degree of skill, and, while there was a good deal of difference of opinion as to the degree of skill which is necessary or desirable, a good many witnesses think that experience shows that a policeman who has gone through these courses is competent to do what is necessary in dealing with an injured person before he is put into the ambulance, and therefore they recommend that arrangements should be made for police constables of that character to be specially selected for the duty of accompanying the ambulance. That is the reason why the suggestion has been made that a police constable should be stationed wherever the ambulance is and should accompany the ambulance, apart from any question of distance or anything of the sort. As I understand, your objection is that that could only be done if the constable so stationed remained entirely under your authority?—Yes, and under our supervision also.

4036. Otherwise you would object to it?—I think it would be objectionable certainly. It would lead to friction.

4037. Supposing that he did remain under your authority would you have any objection to it then—supposing that he was entirely responsible to you and supposing that any misconduct which he might be guilty of would, if necessary, be reported to you?—I think that it would be much better for the Asylums Board to appoint their own man. If you had a constable belonging to one force, and an attendant belonging to the Asylums Board, and so on, there might be caballing and friction.

4038. You think that it would not work well?—I think that it would not.

4039. I rather think that at my request you obtained a police report, which may be useful as an illustration, about the action of the police in the case of the collapse of two houses in Castle Street on the 6th April, 1908?—Yes.

4040. That is the report, is it not, or a copy of it (*handing the same to the witness—See Appendix XVIII.*)?—Yes. Five or six wheeled litters got there within a quarter of an hour.

4041. That, so far as you know, is accurate?—Yes, I believe so. I was there the same day. I saw the patients and I made enquiries, and my recollection is that that is quite accurate.

By Sir William Collins.

4042. There were two or three who were not conveyed by wheeled litter, were there not, in the case of that accident?—I think that for some of them a sort of temporary hospital was made there in a room. A number were there. I saw them lying there. They were dealt with on the spot. You have another good illustration of the effectiveness of the wheeled litters and of the celerity with which a number of them can be brought to one spot, in the collapse of the Charing Cross Railway Station roof.

By the Chairman.

4043. Have you the facts in your mind about that?—I could not tell you how many ambulances came up, but quite 20 in a very few minutes. Have you not had a report about that case, because that is a most important illustration?

(*The Chairman*) Yes. (*See Appendix XVII.*)

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4044. Even in that case some half a dozen were taken by cab?—Yes, it is quite possible. Sometimes people will insist on going in cabs.

4045. That is so.—But as a matter of fact I see that 20 wheeled litters were on the spot at once.

With regard to the question about the constable being on duty at the station to accompany the ambulance, they have had experience of that in Liverpool, I think. They had their constables stationed at the hospitals, and they were obliged to give it up owing to the difficulty in properly supervising them.

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Ambulance, carried with, (*Sir Edward Henry*), 12 ; (*Mr. Harrison*), 448, 525 ; (*Dr. James*), 778, 846 (11) ; (*Capt. Nott-Bower*), 1064, 1085 ; (*Mr. Bryant*), 1389-1394 ; (*Mr. Ryan*), 1572 ; (*Dr. Collie*), 1698, 1710, 1724 (4) ; (*Dr. Cox*), 1958 ; (*Mr. McDonagh*), 2337 ; (*Mr. Osborn*), 2463-2469, 2473-2481 ; (*Sir William Church*), 3273 ; (*Mr. Adams*), 3354 ; (*Mr. Dent*), 3455.

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Police, provision for, (*Dr. James*), 778 ; (*Capt. Nott-Bower*), 1064 ; (*Mr. Bryant*), 1381, 1389-1394 ; (*Dr. Collie*), 1758 ; (*Mr. Batten*), 1826, 1877-1883 ; (*Dr. Cox*), 1961, 1966 ; (*Mr. McDonagh*), 2337, 2349-2350, 2374 ; (*Mr. Osborn*), 2459-2462, 2465-2469 ; (*Mr. Higgs*), 2684-2685, 2742-2744, 2749-2753 ; (*Mr. Morris*), 3161 ; (*Mr. Adams*), 3378-3380 ; (*Mr. Dent*), 3392-3393, 3455, 3524-3525 ; (*Dr. Ridewood*), 3650-3653.

Asepsis :

(*Mr. Harrison*), 542 ; (*Dr. James*), 773, 846 (10), 890-896 ; (*Capt. Nott-Bower*), 1064 (3), 1085-1087 ; (*Mr. Bryant*), 1413 ; (*Mr. Ryan*), 1662-1664 ; (*Dr. Collie*), 1698-1707, 1710-1712, 1724 (2), 1791-1793 ; (*Mr. Batten*), 1815, 1836-1838 ; (*Mr. Higgs*), 2683 ; (*Mr. Dent*), 3431, 3455 ; (*Dr. Ridewood*), 3618.

Attendants with Ambulances :

Advantages of, *see under subheading Need for.*

City of London Service, *see under heading.*

Doctor or surgeon, views as to desirability of having, (*Sir Edward Henry*), 88 ; (*Mr. Harrison*), 456-458 ; (*Dr. James*), 787-788, 809, 848, 861 ; (*Capt. Nott-Bower*), 1078, 1083-1084 ; (*Sir John Furley*), 1183 ; (*Mr. Bryant*), 1387-1390, 1397 ; (*Mr. Bowlby*), 1520-1532 ; (*Mr. Ryan*), 1576 ; (*Dr. Collie*), 1685-1686, 1724 (6), 1725, 1735, 1761, 1800-1802 ; (*Mr. Batten*), 1814 ; (*Dr. Cox*), 1920-1922, 1986-1988 ; (*Mr. Woods*), 2230-2232 ; (*Mr. McDonagh*), 2313-2316, 2365-2370 ; (*Mr. Osborn*), 2501-2502 ; (*Mr. Higgs*), 2673, 2678, 2702, 2759-2760 ; (*Dr. Nachtel*), 2874 ; (*Mr. Morris*), 3133 ; (*Sir William Church*), 3277-3279 ; (*Mr. Adams*), 3369 ; (*Dr. Ridewood*), 3658-3660.

(*See also under subheading Student.*)

Summoning on the spot, (*Sir Edward Henry*), 12, 88 ; (*Mr. Harrison*), 486 ; (*Dr. James*), 809 ; (*Mr. Bryant*), 1397 ; (*Dr. Collie*), 1724 (6) ; (*Mr. Dent*), 3452-3454 ; (*Dr. Ridewood*), 3658-3660.

Police orders as to, *see under heading METROPOLITAN POLICE—Police orders.*

Existing services in London, (*Mr. Morris*), 3090 (iv.) ; *see also under separate headings.*

Attendants with Ambulances—continued.

Experience, continuity of, important, (*Mr. Morris*), 3133.

Ex-policemen (*Mr. Dent*), 3461, 3463.

Female attendants, for cases of females injured, (*Mr. Bryant*), 1388; (*Dr. Collie*), 1772-1773; (*Mr. Osborn*), 2500, 2561; (*Mr. Higgs*), 2718-2719; (*Dr. Ridewood*), 3660. (*See also Appendix VII.*)

Metropolitan Asylums Board, (*Mr. Mann*), 933, 975-976.

First Aid qualification, sufficient or preferable to doctor or student, (*Mr. Harrison*), 456-458; (*Dr. Collie*), 1685-1686, 1725, 1735-1737, 1761, 1800-1806; (*Dr. Cox*), 1959, 1986-1988; (*Mr. Curl*), 2033-2034; (*Mr. McDonagh*), 2314, 2365-2370; (*Mr. Osborn*), 2501; (*Mr. Higgs*), 2673; (*Mr. Morris*), 3131-3133; (*Sir William Church*), 3277-3281, 3333-3334.

Guardians' ambulances, *see under heading*.

Hospitals, attendants from, practicability of providing, (*Dr. James*), 861; (*Capt. Nott-Bower*), 1078-1081; (*Mr. Bryant*), 1388, 1448-1450; (*Mr. Bowlby*), 1520-1525; (*Mr. Ryan*), 1576; (*Dr. Collie*), 1735; (*Mr. Holland*), 2602-2613; (*Mr. Higgs*), 2702-2703; (*Sir William Church*), 3277-3279; (*Mr. Adams*), 3372; (*Dr. Ridewood*), 3658-3660.

"Bringing to the patient," question as to the ideal of, (*Mr. Harrison*), 448, 542; (*Dr. James*), 788, 846 (3); (*Capt. Nott-Bower*), 1064 (4); (*Sir John Furley*), 1183; (*Mr. Bryant*), 1387-1389; (*Mr. Ryan*), 1576; (*Dr. Collie*), 1759-1762; (*Mr. Batten*), 1814; (*Mr. Curl*), 2034; (*Mr. Woods*), 2230-2232; (*Mr. McDonagh*), 2313; (*Mr. Higgs*), 2683; (*Mr. Morris*), 3126-3127; (*Mr. Dent*), 3500-3506.

Litters, with, *see under heading* LITTERS—Attention to Patient.

Liverpool, practice at, *see under heading* LIVERPOOL.

Manchester, practice at, (*Dr. Collie*), 1772-1773.

(*See also Appendix VII.*)

Medical student, as, *see under subheading* Student.

Metropolitan Asylums Board, *see under heading*.

Need for, views as to, (*Mr. Harrison*), 448, 456-458, 466, 486, 526-535; (*Dr. James*), 778, 786-809, 846 (11), (12), 897-904; (*Capt. Nott-Bower*), 1064 (1), 1084; (*Sir John Furley*), 1183; (*Mr. Bryant*), 1387-1390, 1397, 1415; (*Mr. Bowlby*), 1520-1532; (*Dr. Collie*), 1685-1686, 1724 (6)-1737, 1755; (*Dr. Cox*), 1920-1922, 1959, 1986-1988; (*Mr. Batten*), 1814; (*Mr. Dean*), 2112-2120; (*Mr. Woods*), 2230-2232; (*Mr. McDonagh*), 2303, 2312-2316, 2365-2370; (*Mr. Osborn*), 2500-2503; (*Mr. Higgs*), 2673-2679, 2756; (*Dr. Nachtel*), 2865; (*Mr. Morris*), 3126-3133; (*Sir William Church*), 3280-3281; (*Mr. Adams*), 3369; (*Dr. Ridewood*), 3658-3660; (*Mr. Dent*), 3441-3454.

New York, practice in, *see under heading*.

Police, (*Dr. James*), 790-792; (*Capt. Nott-Bower*), 1065-1077; (*Dr. Collie*), 1725-1737, 1755-1757, 1800-1806; (*Mr. McDonagh*), 2303-2312, 2365-2370; (*Mr. Higgs*), 2673-2676, 2772; (*Mr. Morris*), 3122, 3132; (*Sir William Church*), 3280-3281, 3285; (*Mr. Dent*), 3445-3454, 3461, 3464; (*Mr. Mann*), 3717-3720, 3726, 3742; (*Sir Edward Henry*), 3898, 3908-3915, 3984-3986, 4035-4038.

(*See also under subheading* First Aid Qualification, and *under heading* FIRST AID—Police.)

Qualification necessary for, *see under subheadings* Doctor or Surgeon, First Aid Qualification, Police Student.

Scope of duty, (*Mr. Mann*), 3727-3730.

Students, question as to practicability of providing, (*Mr. Harrison*), 461; (*Dr. James*), 861; (*Capt. Nott-Bower*), 994, 1078-1082; (*Mr. Bryant*), 1388, 1448-1450; (*Mr. Bowlby*), 1520-1525; (*Mr. Ryan*), 1576; (*Dr. Collie*), 1735; (*Mr. Higgs*), 2702; (*Dr. Nachtel*), 2874; (*Mr. Morris*), 3133; (*Sir William Church*), 3277-3279.

Suitability of, (*Dr. James*), 848, 861; (*Capt. Nott-Bower*), 1084; (*Mr. Bryant*), 388; (*Dr. Collie*), 1724 (6), 1735; (*Mr. Dean*), 2112-2117; (*Mr. Higgs*), 2702; (*Dr. Nachtel*), 2874; (*Mr. Morris*), 3133; (*Sir William Church*), 3277-3279.

Surgeons, *see under subheading* Doctor.

Beaufort Litter, (*Capt. Nott-Bower*), 991-992.

Berlin Ambulance Service, (*see also Appendix IX.*) (*Mr. Morris*), 3168-3171, 3216-3219.

Birkenhead Ambulance Service, (*Dr. James*), 877-880.

Bischoffsheim Service, (*see also, generally, under heading* LITTERS):

Appliances, (*Mr. Ryan*), 1572; (*Mr. Osborn*), 2463-2464, 2473-2481; (*Mr. Adams*), 3354.

Attendance with, none provided, (*Mr. Ryan*), 1616-1620; (*Mr. Morris*), 3090 (iv., (c)).

Availability to public, (*Mr. Ryan*), 1567-1572; (*Mr. Morris*), 3090 (iv. (c)).

Return to station after use, (*Mr. Ryan*), 1669-1671.

Casualties conveyed by, *see under subheading* Use of. Cleaning of, (*Mr. Ryan*), 1662-1664, 1672-1674; (*Mr. Adams*), 3354.

Co-ordination with other services, availability for, (*Mr. Ryan*), 1628-1637; (*Mr. Morris*), 3089-3090.

Cost of station, (*Mr. Ryan*), 1579.

Establishment, (*Mr. Ryan*), 1555, 1563-1565, 1628-1637; (*Mr. Morris*), 3090 (iii.); (*Sir William Church*), 3230.

Hospitals Association, connection with, (*Mr. Ryan*), 1628-1637.

Inspection of, (*Mr. Ryan*), 1662-1664, 1672-1674; (*Mr. Osborn*), 2463-2464; (*Mr. Adams*), 3354.

Management of, (*Mr. Ryan*), 1635-1637.

Number of, (*Sir Edward Henry*), 21; (*Mr. Ryan*), 1555, 1563.

Police, use by, (*Sir Edward Henry*), 21, 216-219; (*Mr. Ryan*), 1567-1571; (*Mr. Adams*), 3346-3349.

Private cases, use for, (*Mr. Ryan*), 1638-1640; (*Mr. Curl*), 2056-2057.

Stations for, (*Mr. Ryan*), 1555-1563, 1579; (*Mr. Holland*), 2600; (*Mr. Adams*), 3346. (*See also Appendix XII.*)

Return to, after use, (*Mr. Ryan*), 1669-1671.

Type of, (*Mr. Bryant*), 1414; (*Mr. Morris*), 3090 (iii. (c)).

Use of, extent of, (*Mr. Ryan*), 1555, 1563, 1566, 1621-1626; (*Mr. Adams*), 3346-3349. (*See also Appendix XII.*)

Borough Councils :

Ambulance authority, suggested as, (*Mr. Gomme*), 1333. Litters belonging to, used by police, (*Sir Edward Henry*), 21.

London County Council, communications with, (*Mr. Gomme*), 1263-1265, 1331-1333.

Metropolitan Asylums Board, representations to, (*Mr. Mann*), 943.

Sites for litters, acquisition from, (*Sir Edward Henry*) 18, 138.

Boston (U.S.A.) Ambulance Service : (*See also Appendices VII. and IX.*) (*Dr. James*), 846 (13), 859; (*Mr. Morris*), 3094, 3152, 3172-3175; (*Sir William Church*), 3281-3282.

British Medical Association (Metropolitan Counties Branch) (*Mr. Harrison*), 421; (*Dr. James*), 749. (*See also under heading* METROPOLITAN STREET AMBULANCE ASSOCIATION.)

Cabs :

Doctor, use suggested by, (*Sir Edward Henry*), 196-199; (*Supt. Olive*), 355; (*Mr. Harrison*), 573.

Police, use by, extent of, (*Sir Edward Henry*), 60-63, 91-95, 183-193; (*Supt. Cole*), 238-239, 243-251, 278-289; (*Supt. Olive*), 377-378; (*Mr. Ryan*), 1587-1592, 1606-1612; (*Dr. Collie*), 1800; (*Mr. Batten*), 1818-1819; (*Mr. Woods*), 2211; (*Mr. Morris*), 3117, 3139, 3209-3211; (*Mr. Dent*), 3537-3552. (*See also Appendices I. and II.*)

Police, use by, instructions or orders as to, (*Sir Edward Henry*), 68-76, 145-146, 194-200; (*Supt. Cole*), 243-251, 300-307.

Poor law cases, use in, (*Dr. Downes*), 2927-2928.

Prejudicial, (*Mr. Harrison*), 447, 500-503; (*Dr. James*), 788; (*Mr. Bryant*), 1381; (*Mr. Ryan*), 1576, 1607-1612; (*Dr. Collie*), 1712; (*Mr. Batten*), 1816-1825;

Cabs—continued.**Prejudicial—continued.**

(*Mr. Dean*), 2135; (*Mr. Woods*), 2211; (*Mr. McDonagh*), 2390-2398, 2407-2414, 2419-2421; (*Mr. Higgs*), 2644-2645, 2715, 2720-2727; (*Mr. Brown*), 3003-3008, 3012-3016; (*Mr. Adams*), 3352-3353; (*Mr. Dent*), 3549-3552.

Public, preference for, as against the litters, (*Sir Edward Henry*), 63, 68, 91, 197; (*Mr. Lyon*), 640-642; (*Capt. Nott-Bower*), 1087, 1131; (*Mr. Morris*), 3116-3117.

(*See also under heading LITTERS—Public.*)

Rapid ambulances, superseding cabs, (*Capt. Nott-Bower*), 1087-1088, 1132; (*Mr. Higgs*), 2659; (*Mr. Morris*), 3138-3139; (*Sir William Church*), 3327-3328.

Suitability, for some cases, (*Sir Edward Henry*), 68; (*Supt. Cole*), 243-247; (*Supt. Olive*), 359; (*Mr. Bryant*), 1379-1381; (*Mr. Ryan*), 1611; (*Mr. Batten*), 1827-1828; (*Mr. Dean*), 2120-2125, 2135; (*Mr. Woods*), 2211, 2220-2221; (*Mr. McDonagh*), 2318; (*Mr. Higgs*), 2645-2646.

Castle Street Disaster :

Conveyance of persons injured in, (*Sir Edward Henry*), 4039-4042. (*See also Appendix XVIII.*)

Casualties :

Accident area in, *see under subheading* Number of Street Cases in the Metropolis, *and under heading* ACCIDENT AREA—Conveyance.

Batches occurring at same time, (*Mr. Ryan*), 1579, 1586, 1660-1661, 1665-1668; (*Dr. Collie*), 1710, 1721-1724; (*Mr. Batten*), 1839-1844; (*Dr. Cox*), 1979-1981; (*Mr. McDonagh*), 2322-2325, 2335; (*Dr. Ridewood*), 3657.

Conveyance, mode of, of person, injured in, *see under heading* CONVEYANCE.

Diagnosis, difficulty of on the spot, *see under heading* DIAGNOSIS.

Distances of, in Metropolitan Police District :

From Ambulances, (*Sir Edward Henry*), 48, 57-59, 93; (*Supt. Olive*), 347-348. *See also Appendix II., Tables (G) and (H).*

From Hospitals, (*Sir Edward Henry*), 48-56, 93; (*Supt. Cole*), 240-241; (*Supt. Olive*), 379-381; (*Mr. Ryan*), 1578. *See also Appendix II., Tables (E) and (F).*

(*See also Appendix I. under headings of the several hospitals.*)

First Aid, in, *see under heading* FIRST AID.

Hospitals, treatment at, *see under heading* HOSPITALS—Casualties.

Refusing to receive, *see under heading* HOSPITALS—Casualties.

Number of street cases, in the Metropolis, (*see also Appendix II.*), (*Sir Edward Henry*), 12-17, 48-68, 89-94, 177-179, 3942, 4006-4007; (*Supt. Olive*), 398-400; *Mr. Harrison*), 431-443; (*Dr. James*), 748, 761-768, 839; (*Capt. Nott-Bower*), 1054-1062; (*Mr. Batten*), 1807-1811, 1886-1907; (*Mr. Curl*), 2080-2082; (*Mr. Dean*), 2101-2107, 2169; (*Mr. McDonagh*), 2326-2333; (*Dr. Ridewood*), 3637-3643. (*See also Appendices I. and II.*)

Obstructions to traffic, caused by, (*Mr. Harrison*), 447, 463; (*Dr. James*), 778, 872-876; (*Mr. Ryan*), 1563-1565.

Police, duty in relation to, *see under heading* POLICE.

Private cases, *see under that heading.*

Refusal to receive at hospitals, *see under heading* HOSPITALS—Casualties.

Street cases, ambulance service proposed, *see under heading* RAPID AMBULANCES—Organisation.

Number of, *see under subheading*, Number.

Private cases, difficult to distinguish from, (*Mr. Ryan*), 1638-1640; (*Mr. Dean*), 2169; (*Mr. Brown*), 3009-3010; (*Sir William Church*), 3242-3245, 3260; (*Mr. Dent*), 3458-3461.

Times of conveyance, *see under heading* CONVEYANCE—Time.

Charing Cross Railway Station Disaster, Conveyance of persons injured in, (*Mr. Dent*), 3481-3488; (*Sir Edward Henry*), 4012-4045. (*See also Appendix XVII.*)

Chemists' Shops, use as First Aid stations :

Paris, in, (*Dr. Collie*), 1754; (*Dr. Nachtel*), 2785-2791, 2806-2809, 2867-2869, 2876.

London, suggested for, (*Dr. Nachtel*), 2865, 2867-2872, 2875-2876; (*Mr. Morris*), 3222-3226.

Citizen Key System, (*Sir Edward Henry*), 32-35, 39; (*Capt. Nott-Bower*), 1001-1012.

City of London Ambulance Service :

Area served by, (*Sir Edward Henry*), 96; (*Capt. Nott-Bower*), 1051-1052.

Casualties, number in the City, (*Dr. James*), 763; (*Capt. Nott-Bower*), 1054-1062.

Cost of, *see under subheading* Motor Service.

Electromobile, *see under subheading* Motor Service.

First Aid, generally, *see under heading* FIRST AID.

Rewards for, (*Capt. Nott-Bower*), 1171.

Horse Ambulances, proposed and rejected, (*Capt. Nott-Bower*), 1045, 1098, 1134-1135.

Litters, (*Sir Edward Henry*), 24-25; (*Capt. Nott-Bower*), 1043, 1045; (*Mr. Morris*), 3090 (iii. (b), iv. (a)), 3181; (*Sir William Church*), 3239-3240; (*Mr. Mann*), 3696.

London County Council, relation with proposals of, (*Mr. Gomme*), 1339-1340, 1361-1364.

Metropolitan Police, co-operation with, (*Sir Edward Henry*), 220-221; (*Capt. Nott-Bower*), 1172-1173; (*Sir William Church*), 3233.

Motor Service :

Appliances with, (*Capt. Nott-Bower*), 1085; (*Sir William Church*), 3273.

Attendants with, Police, (*Capt. Nott-Bower*), 1045, 1076-1077, 1151-1154; (*Mr. Morris*), 3090 (iv. (b)).

Cost of, (*Capt. Nott-Bower*), 1049-1050, 1134-1135, 1146. (*See also Appendix XI.*)

Efficiency of, *see under subheading* Results.

Equipment and establishment, (*Mr. Harrison*), 429; (*Capt. Nott-Bower*), 1045-1046, 1134-1135, 1174; (*Mr. Osborn*), 2484; (*Mr. Morris*), 3198-3200.

False alarms, (*Sir William Church*), 3233-3235.

Litters, relations with, *see under subheading* Litters.

Number of cases conveyed by, (*Capt. Nott-Bower*), 1136-1137; (*Mr. McDonagh*), 2298-2299; (*Sir William Church*), 3232-3239.

Parliamentary powers, not necessary for establishment, (*Capt. Nott-Bower*), 1174.

Private cases, use for, (*Mr. Bowlby*), 1504-1506; (*Mr. McDonagh*), 2330-2332; (*Sir William Church*), 3233, 3242-3245, 3260.

Rapidity of, (*Sir Edward Henry*), 96-100; (*Capt. Nott-Bower*), 1088-1098, 1138-1140, 1160-1161; (*Mr. McDonagh*), 2303, 2363; (*Mr. Osborn*), 2533-2536; (*Mr. Brown*), 3071; (*Mr. Morris*), 3120; (*Sir William Church*), 3230, 3253-3254, 3296.

Results of, (*Dr. James*), 868-870; (*Capt. Nott-Bower*), 1045, 1088-1098, 1134-1135; (*Sir John Furley*), 1186; (*Mr. Bowlby*), 1490-1503, 1538-1541; (*Mr. McDonagh*), 2303, 2357-2364; (*Sir William Church*), 3238-3255, 3283, 3296-3299, 3321-3328; (*Mr. Mann*), 3687-3688, 3886. (*See also Appendix XI., (ii.)*.)

Signalling system, (*Sir Edward Henry*), 31; (*Capt. Nott-Bower*), 1045-1046, 1051-1053, 1112-1114.

Staff, (*Capt. Nott-Bower*), 1045, 1151-1154.

Stations, (*Capt. Nott-Bower*), 1045, 1146-1148, 1155-1156.

Traffic considerations, *see under subheading* Rapidity.

Mounted Police, connection with, (*Capt. Nott-Bower*), 1045.

Signalling system, *see under subheading* Motor Service.

Coma, conveyance and First Aid in cases of, *see under heading* UNCONSCIOUSNESS.

Common Poor Fund, *see under heading* METROPOLITAN COMMON POOR FUND.

Conveyance, Mode of :

Ambulance, by, *see under headings* LITTER, RAPID AMBULANCE.

Cab, by, *see under heading* CAB.

Castle Street Disaster, conveyance of persons injured in, (*Sir Edward Henry*), 4039-4042. (*See also Appendix XVIII.*)

Conveyance, Mode of—continued.

Casualties, generally, mode used in London cases, (*Sir Edward Henry*), 48-68, 79, 89-96, 180-193, 4039-4045; (*Supt. Cole*), 238-251, 260-261, 271-289, 294-296; (*Supt. Olive*), 344-349, 376-381; (*Mr. Harrison*), 447; (*Dr. James*), 778; (*Mr. Gomme*), 1251-1260; (*Mr. Bryant*), 1397-1401; (*Mr. Woods*), 2189-2191, 2196-2199, 2211-2213, 2225; (*Mr. Higgs*), 2657-2658; (*Mr. Brown*), 3000-3001, 3040; (*Mr. Morris*), 3116-3119, 3139; (*Sir William Church*), 3253-3254, 3296; (*Mr. Adams*), 3346-3353; (*Mr. Dent*), 3438-3441.

(*See also under subheading Hospitals, and Appendices I. and II.*)

Charing Cross Railway Station Disaster, conveyance of persons injured in, (*Mr. Dent*), 3481-3488; (*Sir Edward Henry*), 4042-4045 (Appendix XVII.).

City of London, in, *see under heading* CITY OF LONDON.

Faintness, for, *see under heading* UNCONSCIOUSNESS.

Fractures, for, *see under heading* FRACTURES.

Hæmorrhage, for, *see under heading* HÆMORRHAGE.

Head injuries, for, *see under heading* HEAD INJURIES.

Highgate Tramear accident, conveyance of persons injured in, *see under heading*.

Hospitals severally, to, *see under separate headings*, GREAT NORTHERN CENTRAL, GUY'S, KING'S COLLEGE, LONDON, LONDON TEMPERANCE, MIDDLESEX, POPLAR, PRINCE OF WALES'S GENERAL, ROYAL FREE, ST. BARTHOLOMEW'S, ST. GEORGE'S, ST. MARY'S, ST. THOMAS'S, WESTMINSTER.

(*See also Appendix I.*)

Importance of, *see under subheading* Safety.

Instructions for police, suggested, *see under heading* POLICE—Discretion, possibility of.

Internal injuries, for, *see under heading* INTERNAL INJURIES.

Litter, by, *see under heading* LITTERS.

Poisoning, for, *see under heading* POISONING.

Police, discretion as to choice of, *see under heading* POLICE—Discretion.

Prejudicial, cases of, (*Sir Edward Henry*), 68; (*Mr. Harrison*), 447; (*Dr. James*), 778-784, 788; (*Mr. Ryan*), 1607-1612, 1649-1653; (*Dr. Collie*), 1712, 1800; (*Mr. Batten*), 1816-1825; (*Mr. Curl*), 2016-2020, 2028-2030, 2045-2054, 2072-2077; (*Mr. Dean*), 2166-2169; (*Mr. Woods*), 2189-2190, 2213, 2258; (*Mr. McDonagh*), 2343-2344, 2388-2427; (*Mr. Higgs*), 2715, 2720-2733; (*Mr. Brown*), 3003-3008, 3012-3016, 3027-3040, 3058; (*Mr. Morris*), 3139, 3161; (*Mr. Adams*), 3360-3362, 3373-3377; (*Dr. Ridewood*), 3625-3628.

Rapid ambulance, by, *see under heading* RAPID AMBULANCE.

Rapidity and safety, comparative importance of, (*Mr. Harrison*), 448, 511-512; (*Dr. James*), 798-804, 811, 903-904; (*Capt. Nott-Bower*), 1064, 1088; (*Sir John Furley*), 1183; (*Mr. Bryant*), 1388, 1395-1396, 1442; (*Mr. Bowlby*), 1516; (*Mr. Ryan*), 1576-1578; (*Mr. Batten*), 1835, 1884-1885; (*Mr. Higgs*), 2657, 2686, 2689-2692; (*Mr. Brown*), 3053-3059; (*Mr. Morris*), 3121; (*Sir William Church*), 3230; (*Mr. Dent*), 3431-3433.

Shock, for, *see under heading* SHOCK.

Time occupied in, in London, (*Supt. Cole*), 260-261, 272-273; (*Supt. Olive*), 348; (*Mr. Ryan*), 1578; (*Mr. Batten*), 1830-1832; (*Mr. Curl*), 2014; (*Mr. Brown*), 3001, 3040; (*Mr. Morris*), 3119-3120; (*Sir William Church*), 3253-3254; (*Dr. Ridewood*), 3623-3625.

(*See also Appendix I.*)

Unconsciousness, for, *see under heading* UNCONSCIOUSNESS.

Uniformity, question whether necessary, (*Sir Edward Henry*), 76-77, 101, 154; (*Supt. Olive*), 386-388; (*Mr. Harrison*), 544-548; (*Mr. Lyon*), 736-738; (*Dr. James*), 868; (*Sir John Furley*), 1186; (*Mr. Bryant*), 1377-1381; (*Mr. Osborn*), 2491-2495, 2538-2546; (*Mr. Morris*), 3159-3160, 3179; (*Sir William Church*), 3271-3272; (*Mr. Dent*), 3437-3438.

Wounds, for, *see under heading* HÆMORRHAGE.

Coroners, observations on inadequacy of ambulance services, *see under heading* INQUEST CASES.

Diagnosis, relation to First Aid. (*Dr. James*), 839 (3), 850, 900-901; (*Mr. Bryant*), 1388-1389, 1425-1447;

Diagnosis—continued.

(*Mr. Bowlby*), 1536-1537; (*Dr. Collie*), 1684, 1781-1787; (*Mr. Batten*), 1820, 1867-1876; (*Mr. Dean*), 2107, 2153-2156; (*Mr. Woods*), 2246-2247; (*Mr. McDonagh*), 2384-2385; (*Mr. Osborn*), 2456-2459, 2526-2527; (*Mr. Higgs*), 2746-2747; (*Mr. Morris*), 3189; (*Mr. Dent*), 3455, 3521-3522.

Difficulty of, question as to, (*Sir Edward Henry*), 68, 4011-4014; (*Dr. James*), 840-846; (*Capt. Nott-Bower*), 1072-1075, 1143; (*Sir John Furley*), 1191; (*Mr. Bryant*), 1426-1442; (*Mr. Ryan*), 1656-1657; (*Dr. Collie*), 1684, 1691-1697; (*Dr. Cox*), 1935, 1963; (*Mr. Dean*), 2107, 2152-2156; (*Mr. Higgs*), 2661-2662; (*Mr. Brown*), 3049-3052.

(*See also under heading* FIRST AID—Scope of.

Divisional Surgeons, *see under heading* METROPOLITAN POLICE.

Docks, (London):

Ambulance service in, (*Mr. Curl*), 2027, 2091-2093; (*Mr. Osborn*), 2510; (*Mr. Holland*), 2585-2588; 2592-2593, 2621-2624; (*Dr. Ridewood*), 3602-3607, 3612-3617.

Casualties in, (*Sir Edward Henry*), 210-211; (*Dr. James*), 767-768; (*Mr. Holland*), 2582-2585, 2591.

First Aid, (*Mr. Curl*), 1994, 2025; (*Mr. Holland*), 2585, 2589-2590; (*Dr. Ridewood*), 3619-3620.

Hospitals, used for casualties, (*Mr. Curl*), 1993-1996, 2083-2085; (*Mr. Woods*), 2199-2201; (*Mr. Holland*), 2576-2577, 2585; (*Dr. Ridewood*), 3599.

Police, (*Sir Edward Henry*), 210-211; (*Dr. James*), 767; (*Capt. Nott-Bower*), 1054-1057; (*Mr. Curl*), 1997-1998; (*Mr. Osborn*), 2510; (*Mr. Holland*), 2580-2581; (*Dr. Ridewood*), 3666.

Doctor, attendance with ambulances and First Aid by, *see under headings* ATTENDANTS WITH AMBULANCES, FIRST AID—Doctor.

"Duty Hints" (Metropolitan Police), *see under heading* METROPOLITAN POLICE.

Electromobile Ambulances, *see under heading* MOTOR AMBULANCES, and, generally, *under heading* RAPID AMBULANCES.

Experimental Services, *see under heading* RAPID AMBULANCES.

Faintness, *see under heading* UNCONSCIOUSNESS.

Females, attendants with ambulances, *see under that heading*.

Rapid ambulances, special advantages for cases of females, *see under heading* RAPID AMBULANCES.

Fire Service, Ambulance Service in conjunction with:

Birkenhead, practice at, (*Dr. James*), 878-879.

Desirability and economy of, (*Dr. James*), 857-858; (*Capt. Nott-Bower*), 1098, 1123-1125, 1149-1150; (*Mr. Bryant*), 1373; (*Dr. Collie*), 1776-1780; (*Mr. Curl*), 2065; (*Dr. Nachtel*), 2865; (*Mr. Morris*), 3146; (*Sir William Church*), 3315-3320.

Litters at Fire stations, (*Sir Edward Henry*), 22; (*Supt. Olive*), 363; (*Mr. Ryan*), 1555, 1579; (*Mr. Dent*), 3468, 3471.

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Objections to, (*Sir Edward Henry*), 101-103; (*Mr. Gomme*), 1284-1298; (*Mr. Morris*), 3153-3155.

First Aid:

Ambulances, relation with rapidity of, *see under heading* RAPID AMBULANCES—First Aid.

Appliances, for, *see under heading*.

Attendants with ambulances, by, *see under heading*.

Chemists' shops, use for, *see under heading*.

Coma, *see under heading* UNCONSCIOUSNESS.

Definition of, (*Mr. Osborn*), 2456-2459, 2525-2527.

Diagnosis, connection with, *see under heading* DIAGNOSIS, also *under heading* FIRST AID—Scope.

Doctor or surgeon, summoned locally, (*Sir Edward Henry*), 12-17, 88, 198, 3968-3974; (*Supt. Cole*), 265-268, 290-294; (*Mr. Harrison*), 486, 543; (*Dr. James*), 809; (*Mr. Bryant*), 1384-1385, 1397, 1443; (*Dr. Collie*), 1724 (6); (*Mr. Curl*), 2040-2042; (*Mr. Higgs*), 2682; (*Mr. Brown*), 3052-3059, 3068-3070; (*Mr. Dent*), 3417-3424, 3451-3454, 3489, 3532-3537; (*Dr. Ridewood*), 3644-3649, 3658-3660. (*See also Appendix II., Tables (C) and (D).*)

First Aid—*continued.*

Efficiency of, *see under subheading* Police, Private Persons.

Faintness, *see under heading* UNCONSCIOUSNESS.

Fractures, *see under heading.*

Hæmorrhage, *see under heading.*

Head injuries, *see under heading.*

Improvisation of appliances, *see under heading* APPLIANCES.

Instruction of Police, *see under subheading* Police.

Internal injuries, *see under heading.*

New York, practice at, *see under heading.*

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Police, (*See also under heading* POLICE—Discretion.)

Efficiency attained by,

City of London, (*Capt. Nott-Bower*), 1067, 1171; (*Mr. Bowlby*), 1491-1500; (*Mr. McDonagh*), 2301-2311, 2345-2346, 2386-2387; (*Sir William Church*), 3257-3259, 3286.

Metropolitan, (*Sir Edward Henry*), 12, 22; (*Supt. Cole*) 331-333; (*Supt. Olive*), 352-354; (*Dr. James*), 778, 788-789; (*Sir John Furley*), 1184; (*Mr. Ryan*), 1566, 1586-1592; (*Dr. Collie*), 1724 (5), 1725, 1737; (*Mr. Batten*), 1812-1826, 1867-1872; (*Dr. Cox*), 1961; (*Mr. Curl*), 2028-2032, 2044-2054; (*Mr. Woods*), 2180-2196, 2211; (*Mr. McDonagh*), 2309-2311; (*Mr. Osborn*), 2449, 2573-2574; (*Mr. Higgs*), 2641, 2654-2658, 2688, 2765-2766; (*Mr. Brown*), 3058; (*Mr. Morris*), 3117, 3122-3124, 3182-3183; (*Sir William Church*), 3257-3259; (*Mr. Adams*), 3357-3362, 3370-3371, 3375-3380; (*Mr. Dent*), 3391-3392, 3403-3414; (*Dr. Ridewood*), 3629, 3644-3650.

(*See also under subheadings* Instruction, Number Qualified.)

Efficiency, improvement in, in recent years, (*Mr. Bowlby*), 1498-1500, 1541; (*Mr. Ryan*), 1586-1592; (*Mr. McDonagh*), 2345; (*Mr. Higgs*), 2637; (*Mr. Morris*), 3122; (*Sir William Church*), 3230.

Efficiency, necessity for, (*Supt. Cole*), 327-329; (*Mr. Harrison*), 486, 537-539, 576; (*Dr. James*), 778; (*Capt. Nott-Bower*) 1064-1066; (*Sir John Furley*), 1183-1184; (*Mr. Bryant*), 1377, 1402-1404; (*Mr. Bowlby*), 1526-1528; (*Mr. Ryan*), 1563-1565, 1601-1602; (*Dr. Collie*), 1725, 1782-1784, 1798-1799; (*Mr. Osborn*), 2448-2449, 2547; (*Mr. Higgs*), 2740, 2757; (*Mr. Morris*), 3127, 3161, 3182.

Efficiency, possibility of training, (*Mr. Harrison*), 504-510; (*Dr. James*), 790-797, 846-850; (*Capt. Nott-Bower*), 1065-1077; (*Mr. Bryant*), 1377-1387; 1402-1404; (*Mr. Ryan*), 1565, 1588-1589; (*Dr. Collie*), 1689-1691, 1724 (5), 1725, 1736-1737, 1789-1790, 1800-1806; (*Mr. Batten*), 1829; (*Mr. Curl*), 2034; (*Mr. Osborn*), 2450-2454, 2460-2462, 2470; (*Mr. Higgs*), 2660-2664, 2669, 2688, 2766-2772; (*Mr. Morris*), 3182; (*Mr. Adams*), 3358-3359, 3370, 3375-3380; (*Mr. Dent*), 3392, 3492; (*Dr. Ridewood*), 3654-3656.

(*See also under previous subheading* Efficiency attained and heading POLICE—Discretion.)

Instruction arrangements,

City of London, (*Capt. Nott-Bower*), 1043-1044, 1141, 1163-1171; (*Mr. McDonagh*), 2310-2311.

Metropolitan, (*Sir Edward Henry*), 12, 69-71, 3946-3949, 3952-3959, 3997; (*Supt. Cole*), 252-259, 302-307, 320-328; (*Supt. Olive*), 370-372, 411; (*Mr. Gomme*), 1234-1250; (*Mr. Bryant*), 1402-1409; (*Dr. Collie*), 1725, 1737-1744, 1799; (*Mr. Osborn*), 2448, 2451-2453, 2470-2472; (*Mr. Morris*), 3182; (*Mr. Dent*), 3387-3401, 3415-3417, 3434, 3517-3520, 3565-3566, 3590-3592; (*Dr. Ridewood*), 3656-3657.

Number qualified,

City of London, (*Capt. Nott-Bower*), 1044-1045, 1141.

Metropolitan, (*Sir Edward Henry*), 12, 3947-3948; (*Supt. Cole*), 252-253; (*Supt. Olive*), 370-371; (*Dr. Collie*), 1725.

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Police, Instruction arrangements—*continued.*

Obligation to qualify,

City, enforced in, (*Capt. Nott-Bower*), 1044.

Metropolitan, suggested, (*Dr. James*), 778, 846 (6); (*Mr. Bryant*), 1404; (*Dr. Collie*), 1799; (*Mr. Osborn*), 2472; (*Mr. Morris*), 3161, 3182; (*Mr. Dent*), 3387-3392, 3415-3417, 3590-3592; (*Sir Edward Henry*), 3948-3950.

Revision classes, suggested, (*Dr. James*), 846 (6), 871; (*Sir John Furley*), 1183, 1229; (*Mr. Ryan*), 1601-1602; (*Dr. Collie*), 1736-1737; (*Mr. McDonagh*), 2346-2347; (*Mr. Osborn*), 2448-2449, 2455; (*Mr. Morris*), 3182.

Rewards for, (*Capt. Nott-Bower*), 1171.

Syllabus, (*Mr. Gomme*), 1240; (*Mr. Bryant*), 1404-1407; (*Dr. Collie*), 1738-1744; (*Mr. Osborn*), 2451-2453; (*Mr. Dent*), 3392-3399, 3426-3428; (*Sir Edward Henry*), 3951-3955, 3997-4000. (*See also* Appendices XIII. and XIV.)

Private persons, by, (*Supt. Olive*), 398-399; (*Mr. Harrison*), 529; (*Sir John Furley*), 1183; (*Mr. Ryan*), 1616-1618; (*Mr. Batten*), 1815-1819, 1833, 1878-1883; (*Mr. McDonagh*), 2308, 2386, 2403-2406, 2413-2414, 2419-2421; (*Mr. Higgs*), 2752; (*Mr. Adams*), 3373-3374; (*Dr. Ridewood*), 3649-3652.

(*See also under heading* ST. JOHN AMBULANCE ASSOCIATION.)

Rapid ambulances, connection with, *see under headings* ATTENDANTS WITH AMBULANCES, RAPID AMBULANCES.

Revision classes, for police, *see under subheading* Police, Instruction.

St. John Ambulance Association, *see under heading.*

Scope of, in street casualties, (*Supt. Cole*), 326-329; (*Mr. Harrison*), 448, 542; (*Dr. James*), 778, 846-850, 871-876, 900-901; (*Capt. Nott-Bower*), 1064-1077, 1143; (*Mr. Bryant*), 1381, 1388-1397, 1402-1409, 1425-1447, 1468-1470; (*Mr. Bowlby*), 1531-1537, 1544-1545; (*Dr. Collie*), 1684-1698, 1736, 1744, 1755-1762, 1781-1790, 1800-1806; (*Mr. Batten*), 1814, 1820, 1867-1885; (*Dr. Cox*), 1950-1951, 1958-1961; (*Mr. Curl*), 2033-2034; (*Mr. Dean*), 2106-2107, 2112-2120, 2152-2156; (*Mr. Woods*), 2180, 2241-2247; (*Mr. McDonagh*), 2308-2316, 2337-2342, 2371-2387; (*Mr. Osborn*), 2456-2481, 2525-2527; (*Mr. Higgs*), 2660-2379, 2740-2759; (*Dr. Nachtel*), 2867-2869; (*Mr. Morris*), 3189; (*Sir William Church*), 3230, 3273, 3285-3286, 3298, 3303; (*Mr. Adams*), 3375-3380; (*Mr. Dent*), 3392-3396, 3441, 3455, 3514-3516, 3531; (*Dr. Ridewood*), 3649-3656; (*Sir Edward Henry*), 4011-4017.

(*As respects discretion as to summoning an ambulance, see also under heading* POLICE—Discretion.)

Shock, *see under heading.*

Stations, (*Mr. Morris*), 3218-3220.

Chemists' shops, suggestion to use, (*Dr. Nachtel*), 2865, 2867-2872, 2875-2876; (*Mr. Morris*), 3222-3226.

St. John Ambulance Association, (*Sir John Furley*), 1183, 1220-1224; (*Mr. Osborn*), 2443-2446; (*Mr. Morris*), 3090 (iii. (d)).

Tourniquets, *see under heading.*

Unconsciousness, *see under heading.*

Wounds, *see under heading* HÆMORRHAGE.

Fits, Conveyance and First Aid, for cases of, *see under heading* UNCONSCIOUSNESS.

Fixed Point Boxes, *see under heading* METROPOLITAN POLICE.

Fractures :

Conveyance and First Aid, for cases of, (*Sir Edward Henry*), 75; (*Supt. Cole*), 243-247, 300-307; (*Supt. Olive*), 356-358; (*Dr. James*), 839 (5), 909; (*Capt. Nott-Bower*), 1085; (*Mr. Bryant*), 1381-1382, 1394, 1404; (*Mr. Bowlby*), 1486-1489; (*Dr. Collie*), 1688, 1712, 1786; (*Mr. Batten*), 1820, 1827-1828, 1867-1876; (*Mr. Curl*), 2042-2043; (*Mr. Woods*), 2180, 2196, 2220-2222, 2244-2247; (*Mr. McDonagh*), 2308, 2318, 2337-2338, 2383-2386; (*Mr. Higgs*), 2644, 2663-2664, 2686; (*Mr. Morris*), 3161; (*Mr. Dent*), 3440-3441.

Furley Litter, (*Sir Edward Henry*), 20-21 ; (*Mr. Osborn*), 2479 ; (*Dr. Ridewood*), 3603-3605.

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Ambulance, belonging to, (*Mr. Brown*), 3063-3066.
Ambulance Station suggested, (*Mr. Ryan*), 1580.
Area served by, (*Sir Edward Henry*), 208-209 ; (*Mr. Brown*), 2996-3004, 3074-3080.

Casualties, conveyance to, (*Mr. Gomme*), 1253 ; (*Mr. Brown*), 3000-3001, 3019-3025 ; (*Mr. Dent*), 3491-3498.

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Guardians' Ambulances :

Attendance with, (*Mr. Lyon*), 630 ; (*Dr. Downes*), 2919-2924, 2985.

Availability on call, (*Sir Edward Henry*), 100 ; (*Mr. Lyon*), 617, 623-625, 739-740 ; (*Dr. Collie*), 1745.

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Casualties, use for, *see under subheading* Street Cases.

Charges for, (*Mr. Lyon*), 614, 621, 630 ; (*Dr. Downes*), 2918-2919, 2969 ; (*Mr. Morris*), 3090 (ii. (c)).

Conference of Poor Law authorities, respecting, *see under subheading* Poor Law Authorities.

Efficiency of, (*Mr. Lyon*), 723 ; (*Dr. Downes*), 2933, 2970-2971, 2985.

Horsing, (*Mr. Lyon*), 619, 623-624 ; (*Sir Edward Henry*), 3980-3981.

Infectious cases, transport by, (*Mr. Mann*), 931, 3749-3751 ; (*Sir John Furley*), 1210-1213.

Metropolitan Asylums Board, question of transporting Poor Law cases, (*Dr. Downes*), 2977-2983 ; (*Mr. Morris*), 3164, 3176-3178 ; (*Sir William Church*), 3266 ; (*Mr. Mann*), 3674, 3752, 3865-3869.

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Organisation, question of improvement, (*Dr. Downes*), 2933, 2970-2972, 2985.

Pauperism "taint," question of, (*Sir Edward Henry*), 100 ; (*Mr. Lyon*), 621.

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Poor Law authorities, conference of, February 9th. 1907, (*Mr. Lyon*), 652, 717-718 ; (*Sir John Furley*), 1206 ; (*Mr. Gomme*), 1235-1239.

Private cases, transport by, (*Mr. Lyon*), 617, 621-622 ; (*Dr. Downes*), 2920-2926, 2969 ; (*Mr. Morris*), 3090 (ii. (c)) ; (*Dr. Ridewood*), 3664.

Street cases, transport by Guardians' ambulances, Advocated, (*Mr. Lyon*), 616-619, 621-622, 679-681 ; (*Mr. Gomme*), 1265-1269 ; (*Mr. Bryant*), 1417-1418, 1471-1475 ; (*Mr. Osborn*), 2513-2515 ; (*Mr. Mann*), 3866-3868.

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Legality, question of, (*Mr. Lyon*), 617-620, 626-628, 675-678, 694-697, 715-719, 736 ; (*Mr. Gomme*), 1265 ; (*Mr. Bryant*), 1471-1475 ; (*Dr. Downes*), 2908-2915, 2930, 2954-2958.

Local Government Board, views on the question, (*Mr. Lyon*), 619, 626-628, 694-697 ; (*Dr. Downes*), 2916-2918, 2929-2930.

Objections, (*Sir Edward Henry*), 100, 3980-3983 ; (*Mr. Lyon*), 621 ; (*Dr. James*), 927-929 ; (*Dr. Downes*), 2919-2924.

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Ambulance station suggested, (*Mr. Ryan*), 1580.

Casualties, conveyance, (*Sir Edward Henry*), 184-193 ; (*Mr. Gomme*), 1253, 1259-1260.

Refusal to receive, question of, (*Mr. Bryant*), 1458.

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Conveyance and First Aid, for cases of, (*Dr. James*), 779-784, 839 (4) ; (*Capt. Nott-Bower*), 1085 ; (*Mr. Bryant*), 1381, 1389, 1443 ; (*Mr. Ryan*), 1664 ; (*Mr. Batten*), 1814, 1826, 1877-1883 ; (*Dr. Cox*), 1961 ; (*Mr. Curl*), 2028-2030, 2094-2096 ; (*Mr. Dean*), 2101-2107, 2152-2161 ; (*Mr. Woods*), 2180-2181 ; (*Mr. McDonagh*), 2308, 2337-2339, 2371-2382 ; (*Mr. Osborn*), 2459-2469 ; (*Mr. Higgs*), 2667-2668, 2684-2685, 2689-2693, 2749-2753, 2769-2770 ; (*Sir William Church*), 3273 ; (*Mr. Adams*), 3375-3380 ; (*Mr. Dent*), 3392-3393, 3433-3434, 3455, 3524-3525.

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Conveyance and First Aid for cases of, (*Dr. James*), 788, 839 (5)-842 ; (*Mr. Bryant*), 1381, 1440 ; (*Dr. Collie*), 1691-1697 ; (*Mr. Curl*), 2045-2048 ; (*Mr. Woods*), 2290-2291 ; (*Mr. McDonagh*), 2303, 2308, 2318, 2360 ; (*Mr. Higgs*), 2645, 2715-2717 ; (*Mr. Brown*), 3012-3015, 3049-3052 ; (*Mr. Morris*), 3161.

Highgate Tramear Accident, conveyance of persons injured in, (*Sir Edward Henry*), 156-157 ; (*Mr. Brown*), 3022-3025 ; (*Mr. Dent*), 3491-3499.

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Motor Ambulances, comparison with, (*Sir Edward Henry*), 25-29, 163-164 ; (*Mr. Harrison*), 463-465, 549-553 ; (*Mr. Lyon*), 599-601, 665, 703-707 ; (*Dr. James*), 866-867 ; (*Mr. Mann*), 954-960 ; (*Capt. Nott-Bower*), 1098, 1134-1135 ; (*Mr. Bryant*), 1414 ; (*Mr. Bowby*), 1490-1492 ; (*Dr. Collie*), 1738 ; (*Dr. Cox*), 1972-1976 ; (*Mr. Curl*), 2066 ; (*Mr. Osborn*), 2483-2490 ; (*Dr. Nachtel*), 2879-2881 ; (*Sir William Church*), 3253-3255, 3274-3276, 3290-3294.

Hospitals (*see also* INFIRMARIES):

Abuse of, in connection with ambulance facilities, (*Mr. Ryan*), 1645 ; (*Mr. Holland*), 2618-2619.

Accommodation for casualty cases, *see under subheading* Casualties.

Ambulance stations, in connection with, (*Sir Edward Henry*), 4, 103 ; (*Supt. Cole*), 229-230 ; (*Dr. James*), 846 (5) ; (*Mr. Bryant*), 1395-1397 ; (*Mr. Ryan*), 1580-1582 ; (*Mr. Holland*), 2599, 2625-2629 ; (*Mr. Higgs*), 2703-2706 ; (*Lord Leigh*), 2825, 2835 ; (*Mr. Brown*), 3063-3066 ; (*Mr. Morris*), 3090 (ii. (e)) ; (*Sir William Church*), 3277-3279, 3331-3332. (*See also under subheading* Telephone, and under headings ATTENDANTS WITH AMBULANCES, RAPID AMBULANCES—Organisation.

Ambulances belonging to hospitals, (*Mr. Holland*), 2600 ; (*Mr. Brown*), 3063-3066 ; (*Mr. Morris*), 3090 (ii. (e)).

Attendants with ambulances, provision of, *see under heading* ATTENDANTS WITH AMBULANCES.

"Bringing hospital to the patient," question of, *see under heading* RAPID AMBULANCES—Hospitals.

Casualty cases, admission and question of refusal to admit, (*Sir Edward Henry*), 166-167 ; (*Supt. Cole*), 335-339 ; (*Supt. Olive*), 402-403 ; (*Mr. Lyon*), 654-658, 736-735 ; (*Dr. James*), 846 (3) ; (*Mr. Bryant*), 1458-1462 ; (*Mr. Batten*), 1851-1852 ; (*Mr. Curl*), 2016-2019 ; (*Mr. Woods*), 2227-2229, 2252-2257 ; (*Mr. McDonagh*), 2334-2336 ; (*Mr. Holland*), 2615-2617 ; (*Mr. Higgs*), 2710-2712 ; (*Mr. Brown*), 3041-3048 ; (*Mr. Morris*), 3115-3116 ; (*Mr. Adams*), 3345 ; (*Mr. Dent*), 3507-3512 ; (*Dr. Ridewood*), 3662-3664.

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Infirmary, transference to, (*Supt. Cole*), 335-339 ; (*Mr. Bryant*), 1417 ; (*Mr. Curl*), 2018-2019 ; (*Mr. Woods*), 2256 ; (*Mr. McDonagh*), 2336 ; (*Dr. Downes*), 2973 ; (*Mr. Brown*), 3041-3048.

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Promptitude in dealing with, (*Mr. Lyon*), 654-658 ; (*Mr. Holland*), 2613.

Reception notice, usefulness of, (*Sir Edward Henry*), 167 ; (*Supt. Cole*), 337 ; (*Mr. Lyon*), 656, 730-735 ; (*Dr. James*), 846 (3) ; (*Mr. Bryant*), 1397, 1458-1462 ; (*Mr. Batten*), 1852 ; (*Mr. Woods*), 2227-2229 ; (*Mr. McDonagh*), 2334 ; (*Mr. Higgs*), 2712 ; (*Mr. Brown*), 3041-3048 ; (*Dr. Ridewood*), 3662-3664.

Refusal to admit, *see under subheading* Casualty Cases—Admission.

Hospitals—continued.

- Decentralisation, with rapid ambulance service, (*Mr. Harrison*), 450-455; (*Dr. James*), 846 (9); (*Mr. Dean*), 2172.
- Infirmaries, use of, for casualty cases, *see under heading INFIRMARIES*.
- Inquest cases, interference with hospital work, (*Mr. Adams*), 3372.
- Litters, stationed at, (*Supt. Cole*), 230; (*Mr. Curl*), 2057; (*Mr. Holland*), 2600; (*Mr. Adams*), 3346-3349.
- Police attending with casualty case, *see under heading POLICE—Duty, Hospitals*.
- Complaints, none received by police from, (*Sir Edward Henry*), 72-75.
- Fees or refreshments, police receiving, at, (*Sir Edward Henry*), 168-172; (*Mr. Holland*), 2613-2615.
- Receiving hospitals for casualty cases, (*Dr. James*), 846 (9); (*Mr. Dean*), 2172.
- Refusal of casualty cases, *see under subheading Casualty cases—Admission of*.
- Situation, as respects the accident area, (*Sir Edward Henry*), 48-53, 93; (*Supt. Olive*), 379-381; (*Dr. James*), 846 (9); (*Dr. Collie*), 1713 (1); (*Mr. Batten*), 1906-1907; (*Dr. Cox*), 1957; (*Mr. Curl*), 1999-2006; (*Mr. Woods*), 2212; (*Dr. Downes*), 2973; (*Mr. Brown*), 2996-3004.
- Stations for ambulances at hospitals, *see under subheadings Ambulance Stations, Litters*.
- Telephone, use of, to link with ambulance, police and railway stations, (*Sir Edward Henry*), 166-167; (*Supt. Olive*), 404-406; (*Mr. Lyon*), 730-732; (*Sir John Furley*), 1184; (*Mr. Bryant*), 1397, 1458-1462; (*Mr. Woods*), 2227-2229; (*Mr. McDonagh*), 2334; (*Mr. Holland*), 2615-2617; (*Mr. Higgs*), 2705-2706; (*Dr. Ridewood*), 3662-3664.

Hospitals Association, (*Mr. Bryant*), 1372, 1466-1467; (*Mr. Ryan*), 1555, 1605-1607, 1616-1618, 1628-1637, 1641-1643.

Infectious Cases, Ambulance Service for, (*Mr. Morris*), 3090 (i.), *see also under headings METROPOLITAN ASYLUMS BOARD, GUARDIANS*.

Non-infectious cases, question of transportation by authority for infectious cases, *see under heading METROPOLITAN ASYLUMS BOARD (B.)—Infection*.

Infirmaries :

- Availability of, for street cases, (*Sir Edward Henry*), 48-56, 93, 96; (*Supt. Cole*), 226-228, 235-237; (*Supt. Olive*), 401; (*Mr. Bryant*), 1401, 1417-1418; (*Mr. Batten*), 1901; (*Mr. Holland*), 2619-2620; (*Dr. Downes*), 2937-2953, 2973-2974.
- Hospitals, transference of casualty cases from, *see under heading HOSPITALS—Casualty Cases*.
- Workhouses, distinction from, as to medical staff, (*Dr. Downes*), 2941-2942, 2946-2953; (*Sir Edward Henry*), 4024-4028.

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- Conveyance and First Aid, for cases of, (*Supt. Cole*), 247; (*Dr. James*), 846 (6); (*Mr. Bryant*), 1381 (*Mr. Woods*), 2290-2291; (*Mr. McDonagh*), 2318, 2403-2414; (*Mr. Morris*), 3161; (*Mr. Dent*), 3554-3555.

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- Casualties, conveyance to, (*Mr. Gomme*), 1253.
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Litters, (*see also under headings METROPOLITAN POLICE—*

- Ambulance Service, BISCHOFFSHEIM SERVICE*.)
- Advantages of, (*Sir Edward Henry*), 44; (*Sir John Furley*), 1193; (*Mr. Ryan*), 1586, 1665-1668; (*Dr. Collie*), 1710; (*Mr. Batten*), 1835; (*Dr. Cox*), 1979-1981; (*Mr. Woods*), 2211; (*Mr. Osborn*), 2487-2492; (*Mr. Holland*), 2585, 2593; (*Mr. Morris*), 3179-3180; (*Mr. Dent*), 3431-3433, 3437-3438.
- Appearance, uninviting, (*Dr. James*), 773; (*Mr. Bryant*), 1411-1413.
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Litters—continued.

- Appliances with, (*Sir Edward Henry*), 12; (*Mr. Bryant*), 1389-1393; (*Mr. Ryan*), 1572; (*Dr. Collie*), 1724 (4); (*Mr. Osborn*), 2463-2465, 2473-2481; (*Mr. Adams*), 3354; (*Mr. Dent*), 3455.
- Asepsis, question of, *see under subheading Cleanliness, also under heading ASEPSIS*.
- Attention to patient on journey, in, (*Dr. James*), 890; (*Capt. Nott-Bower*), 1064; (*Mr. Ryan*), 1573, 1619-1620; (*Mr. Batten*), 1826-1827; (*Mr. Higgs*), 2680-2681, 2739; (*Mr. Morris*), 3090 (iii. (3), iv. (a), (c)), 3143; (*Mr. Adams*), 3363; (*Mr. Dent*), 3435-3436.
- Availability of, in emergency, (*Dr. James*), 811; (*Mr. Ryan*), 1567-1572, 1669-1671; (*Mr. Osborn*), 2463-2464.
- Beaufort type, (*Capt. Nott-Bower*), 991-992.
- Bischoffsheim service, *see under heading*.
- City Police, use by, *see under heading CITY OF LONDON*.
- Cleanliness, question of, (*Dr. James*), 773, 890-896; (*Capt. Nott-Bower*), 1064 (3), 1085-1087; (*Mr. Bryant*), 1413-1414; (*Mr. Ryan*), 1662-1664; (*Dr. Collie*), 1698-1707, 1710-1712, 1724 (2) and (7), 1791-1793; (*Mr. Batten*), 1815, 1836-1838; (*Mr. Woods*), 2226; (*Mr. Higgs*), 2737; (*Mr. Adams*), 3354; (*Mr. Dent*), 3431; (*Dr. Ridewood*), 3618.
- Construction, points with regard to, (*Sir Edward Henry*), 21, 103; (*Mr. Lyon*), 644-646; (*Sir John Furley*), 1197; (*Mr. Bryant*), 1411-1414; (*Mr. Ryan*), 1565-1566, 1572-1576, 1613-1615; (*Mr. Batten*), 1835-1838; (*Mr. Dean*), 2110; (*Mr. Osborn*), 2479; (*Mr. Dent*), 3431, 3435, 3466-3467; (*Dr. Ridewood*), 3615.
- Cost, (*Dr. James*), 811, 821, 838-839, 863, 917; (*Mr. Ryan*), 1579; (*Dr. Collie*), 1724 (3); (*Mr. Dent*), 3464-3468.
- Covering over patient, (*Dr. James*), 811, 890; (*Sir John Furley*), 1194; (*Mr. Bryant*), 1413; (*Mr. Batten*), 1826-1827; (*Mr. Curl*), 2092; (*Mr. Higgs*), 2680-2681, 2738-2739; (*Mr. Dent*), 3435-3436; (*Dr. Ridewood*), 3615-3617.
- Crowd, following through streets, *see under subheading Publicity*.
- Defects of system, summary of, (*Dr. James*), 839; (*Dr. Collie*), 1713, 1724.
(*See also separate subheadings, Appearance, Attention to Patient, Availability, Cleanliness, Covering over Patient, Inspection, Police Duties, Public, Publicity, Speed, Summoning.*)
- Directions to find, suggested, (*Mr. Lyon*), 636, 650; (*Mr. Ryan*), 1580.
- Distant cases, objections to use for, *see under subheading Speed*.
(*See also heading RAPID AMBULANCES—Advantages.*)
- Docks, service in, *see under heading DOCKS*.
- Efficiency, *see under subheading Speed*.
- Furley type, (*Sir Edward Henry*), 20-21; (*Mr. Osborn*), 2479; (*Dr. Ridewood*), 3603-3605.
- Hospitals, stations at, (*Supt. Cole*), 230; (*Mr. Curl*), 2057; (*Mr. Holland*), 2600; (*Mr. Adams*), 3346-3349.
- Indicators, directing to, (*Mr. Lyon*), 636, 650; (*Mr. Ryan*), 1580.
- Inspection of, (*Capt. Nott-Bower*), 1085-1087; (*Mr. Bryant*), 1413-1414; (*Mr. Ryan*), 1662-1664, 1672-1674; (*Dr. Collie*), 1711-1712; (*Mr. Osborn*), 2463-2464.
- Liverpool, *see under heading*.
- Metropolitan Police service, *see under heading METROPOLITAN POLICE—Ambulance Service*.
- Notices, directing to, *see under subheading Directions*.
- Observation of patient, *see under subheading Attention*.
- Police duties, interference with, (*Dr. James*), 811, 821-822, 838-839, 863; (*Dr. Collie*), 1724 (3); (*Mr. Morris*), 3090 (iv. (a), (c)), 3141-3142.
- Errors in not using litters, *see under heading POLICE—Discretion*.
- Services of litters, *see under headings CITY OF LONDON, METROPOLITAN POLICE, also under BISCHOFFSHEIM LITTERS*.
- Public, objection to, (*Sir Edward Henry*), 68; (*Mr. Lyon*), 640-642; (*Dr. James*), 773, 811, 886-888; (*Capt. Nott-Bower*), 1064 (5), 1087, 1131; (*Sir John Furley*), 1194; (*Mr. Bryant*), 1411-1413; (*Mr. Bowly*), 1516-1519; (*Mr. Ryan*), 1598-1600; (*Dr. Collie*), 1724 (7), (8); (*Mr. Batten*), 1835; (*Mr. McDonagh*), 2399-2402; (*Mr. Higgs*), 2680, 2734-2738; (*Mr. Morris*), 3117, 3139; (*Mr. Dent*), 3436.

Litters—continued.

- Publicity, exposure of patient to, (*Dr. James*), 778, 811, 888; (*Mr. Bryant*), 1413; (*Mr. Bowlby*), 1516-1519; (*Mr. Ryan*), 1598-1599; (*Dr. Collie*), 1724 (8); (*Mr. Curl*), 2092; (*Mr. Higgs*), 2737-2738; (*Mr. Morris*), 3143-3145; (*Sir William Church*), 3296; (*Mr. Dent*), 3436-3437.
- Rapid ambulances, supersession of litters by, (*Mr. Harrison*), 557-559; (*Dr. James*), 770, 813, 914-916; (*Capt. Nott-Bower*), 994, 1012, 1098, 1116-1122, 1132, 1162; (*Mr. Bowlby*), 1533; (*Dr. Collie*), 1708-1709, 1770-1771; (*Lord Leigh*), 2834, 2851-2857; (*Mr. Morris*), 3159, 3181; (*Sir William Church*), 3271-3272.
- Return to station, (*Dr. James*), 811; (*Mr. Ryan*), 1669-1771; (*Mr. Osborn*), 2463-2464.
- St. John Ambulance Association, *see under heading*.
- Scope of, in ambulance service, views as to, (*Mr. Harrison*), 544-547; (*Mr. Lyon*), 609-610, 633, 736-738; (*Dr. James*), 868, 889-890, 917; (*Capt. Nott-Bower*), 1098; (*Sir John Furley*), 1184, 1193-1197; (*Mr. Bryant*), 1401, 1411-1414, 1471; (*Mr. Ryan*), 1576-1579; (*Dr. Collie*), 1713-1724; (*Mr. Batten*), 1845; (*Mr. Curl*), 2023; (*Mr. Dean*), 2108-2111; (*Mr. Osborn*), 2491-2499, 2513, 2538-2546, 2566-2567; (*Mr. Morris*), 3089-3090, 3159, 3194-3196; (*Sir William Church*), 3271-3272; (*Mr. Dent*), 3431-3438; (*Sir Edward Henry*), 3967.
- Sites for, difficulty of obtaining, *see under heading*.
- METROPOLITAN POLICE — Ambulance Service, Litters, Stations.
- Speed and suitability (especially for short distances), question of, (*Sir Edward Henry*), 76-79, 88, 96, 3963-3966, 4010, 4039-4045; (*Supt. Cole*), 260-261, 275-276, 297-298; (*Supt. Olive*), 348-349, 362-369; (*Mr. Lyon*), 609-610, 633-636; (*Dr. James*), 774-778, 811; (*Capt. Nott-Bower*), 1090-1098, 1140, 1160-1161; (*Sir John Furley*), 1193; (*Mr. Bryant*), 1397, 1401, 1414, 1455-1457; (*Mr. Bowlby*), 1513-1515; (*Mr. Ryan*), 1576; (*Dr. Collie*), 1710-1724; (*Mr. Batten*), 1845-1847; (*Mr. Curl*), 2007, 2023-2026, 2045-2049; (*Mr. Woods*), 2189, 2225, 2287-2289; (*Mr. Osborn*), 2489-2491, 2539; (*Mr. Holland*), 2539; (*Mr. Higgs*), 2680, 2689-2690; (*Mr. Brown*), 3027-3040; (*Mr. Adams*), 3351; (*Mr. Dent*), 3431-3433, 3455, 3491-3499, 3562; (*Dr. Ridewood*), 3613.
- Suitability of, *see last subheading*.
- Summoning, (*Sir Edward Henry*), 142-149; (*Supt. Cole*), 233, 261, 297-298; (*Supt. Olive*), 382-385, 389-392; (*Dr. James*), 776-778; (*Dr. Collie*), 1749; (*Mr. Morris*), 3090 (iv. (a), (c)).
- Surgical cleanliness, question of, *see under subheading*.
- Cleanliness and, *generally, under heading* ASEPSIS.

Liverpool Ambulance Service (*see also the Memorandum on the service in Appendix VI.*)

- Accommodation, *see under subheading* Stations.
- Adaptability for the circumstances of London, (*Sir Edward Henry*), 101-103; (*Mr. Harrison*), 460, 556; (*Capt. Nott-Bower*), 1099-1104, 1123-1125, 1149-1150; (*Mr. Bryant*), 1448-1450; (*Dr. Collie*), 1777-1778; (*Mr. Morris*), 3153-3155.
- Ambulances, type used, (*Capt. Nott-Bower*), 1012, 1108.
- Attendants with ambulances, (*Sir Edward Henry*), 88, 4045; (*Mr. Harrison*), 461; (*Capt. Nott-Bower*), 994, 1012, 1078-1085, 1103-1105, 1126-1127. (Appendix VI.)
- Citizen key system, (*Capt. Nott-Bower*), 1004-1012.
- Cost, (*Capt. Nott-Bower*), 1036, 1042, 1111-1113; (*Mr. Morris*), 3152.
- Dock casualties, use for, (*Capt. Nott-Bower*), 994-997, 1099-1102.
- Establishment, (*Mr. Harrison*), 416, 460; (*Capt. Nott-Bower*), 990-1000, 1012, 1174.
- Fire service, connection with, (*Capt. Nott-Bower*), 998-999, 1001, 1012, 1037-1042, 1123-1125, 1149-1150; (*Dr. Collie*), 1776-1780; (*Mr. Morris*), 3153-3155.
- First Aid, (*Mr. Harrison*), 460; (*Capt. Nott-Bower*), 993, 1013-1036.
- Horsing, (*Capt. Nott-Bower*), 998-999, 1012, 1038-1042, 1123-1125.
- Hospitals, connection with, (*Mr. Harrison*), 460; (*Capt. Nott-Bower*), 994-998, 1012.
- Situation of, with reference to the accident area, (*Capt. Nott-Bower*), 1103-1105.
- Infectious service, separation from service for street casualties, (*Capt. Nott-Bower*), 1129-1130; (*Dr. Collie*), 1796-1797; (*Mr. Mann*), 3881-3883.

Liverpool Ambulance Service—continued.

- London, adaptability of the system to, *see under subheading* Adaptability.
- Litters, (*Mr. Harrison*), 557-559; (*Capt. Nott-Bower*), 990-994, 1012, 1098, 1116-1120; (*Dr. Collie*), 1708-1709, 1770-1771.
- Mounted police, connection with, (*Capt. Nott-Bower*), 998, 1012, 1037-1042, 1123-1125.
- Number of cases dealt with, (*Mr. Harrison*), 460; (*Capt. Nott-Bower*), 1007-1008, 1012, 1099-1100.
- Patrol waggons, connection with, (*Capt. Nott-Bower*), 999-1000, 1012, 1037-1042.
- Police, discretion as to summoning an ambulance, *see under subheading* First Aid.
- First Aid, *see under subheading* First Aid.
- Mounted, *see under subheading* Mounted Police.
- Powers of establishment, (*Capt. Nott-Bower*), 1174.
- Private cases, use for, (*Mr. Bowlby*), 1504.
- Signalling system, (*Capt. Nott-Bower*), 1000-1012, 1028-1032, 1036-1037, 1042-1043, 1109-1111.
- Stations, (*Capt. Nott-Bower*), 1012, 1103, 1150.

Local Government Board :

- Ambulance authority, as, (*Sir William Church*), 3287-3289.
- Guardians' ambulances, views as to use of, for other than Poor Law purposes, (*Mr. Lyon*), 617-619, 626-628, 694-697, 717-720, 736; (*Dr. Downes*), 2911-2918, 2929-2930, 2955-2958.
- Westminster Union, correspondence respecting purchase of ambulance, (*Mr. Lyon*), 617-619, 694-697; (*Dr. Downes*), 2912-2913, 2955-2958.
- Metropolitan Asylums Board :
- Ambulances, views as to use for non-infectious cases, (*Dr. Downes*), 2916-2918.
- Correspondence with, (*Mr. Mann*), 936, 942; (*Dr. Downes*), 2964-2968.
- Surcharge of, (*Mr. Lyon*), 613-614; (*Mr. Mann*), 942-943; (*Dr. Downes*), 2959-2963.
- (*See also under separate headings* GUARDIANS and METROPOLITAN ASYLUMS BOARD.)

London County Council :

- Ambulance authority, proposed, (*Mr. Harrison*), 568-570; (*Mr. Gomme*), 1333-1335; (*Mr. Ryan*), 1632-1633; (*Lord Leigh*), 2836-2848; (*Mr. Morris*), 3146; (*Sir William Church*), 3315-3320; (*Mr. Mann*), 3880-3881.
- (*See also under subheading* Proposals.
- Bill (General Powers, 1906), *see under subheading* Proposals.
- Ambulances provided by, (*Sir Edward Henry*), 21; (*Mr. Gomme*), 1325.
- Conveyance of casualties, statistics of, (*Mr. Gomme*), 1251-1260.
- Deputations &c., to, (*Mr. Harrison*), 429; (*Mr. Gomme*), 1263-1265, 1331-1335; (*Sir William Church*), 3315-3320.
- Fire Brigade Committee, (*Mr. Gomme*), 1284-1298.
- (*See also under heading* FIRE SERVICE.)
- First Aid, Metropolitan Police instruction, (*Supt. Cole*), 254-259, 322-324; (*Mr. Gomme*), 1234-1250; (*Mr. Bryant*), 1402-1409; (*Dr. Collie*), 1737-1744, 1799; (*Mr. Osborn*), 2451; (*Sir Edward Henry*), 3953-3956, 3997-4000.
- General Powers Bill, 1906, *see under subheading* Proposals.
- Litters provided by, (*Sir Edward Henry*), 21.
- Metropolitan Asylums Board, communications with, (*Mr. Mann*), 936-941; (*Mr. Gomme*), 1269-1275, 1326.
- Proposed transfer of duties of, to the Council, (*Mr. Dent*), 3574; (*Mr. Mann*), 3851-3855.
- Metropolitan Police, *see under subheading* Police.
- Police, communications with, (*Sir Edward Henry*), 111-117; (*Mr. Gomme*), 1315-1316, 1326; (*Mr. Dent*), 3562.
- Co-operation with, *see under subheading* Proposals.
- First Aid instruction, *see under subheading* First Aid.
- Proposals of, for establishment of an ambulance service :
- Antecedent steps, (*Mr. Harrison*), 429, (*Mr. Gomme*), 1263-1298, 1326-1336; (*Mr. Ryan*), 1627-1633; (*Lord Leigh*), 2825-2826; (*Sir William Church*), 3315-3320.
- Bill introduced in Parliament, *see under subheading* General Powers Bill, *below*.
- City of London, opposition, (*Mr. Gomme*), 1339-1340, 1361-1362.

London County Council—continued.**Proposals—continued.**

- Co-operation and co-ordination with existing services, (*Sir Edward Henry*), 111-117; (*Mr. Gomme*), 1269-1275, 1312-1316, 1326-1330, 1336, 1357-1362, 1368-1371.
- Cost of, (*Mr. Gomme*), 1299-1310, 1352-1356.
- General Powers Bill, 1906, (*Mr. Gomme*), 1306-1309, 1337-1361, 1371.
- Home Office Report on General Powers Bill, (*Sir Edward Henry*), 122-131; (*Mr. Gomme*), 1312-1320, 1341-1349; (*Mr. Mann*), 3760-3761.
- Scope of:
 - First scheme, (*Mr. Gomme*), 1299-1305, 1368-1369.
 - Second scheme, (*Mr. Gomme*), 1306-1311, 1317-1318, 1351-1354, 1370-1371.
 - Suspended, (*Mr. Gomme*), 1365-1367.
- Statistics as to conveyance of casualties, (*Mr. Gomme*) 1251-1260.

London Horse Ambulance Service, (see also under heading METROPOLITAN POLICE): (*Sir Edward Henry*), 4, 118-130; (*Mr. Harrison*), 419; (*Mr. Dent*), 3474-3480.

London Hospital:

- Ambulance facilities, (*Mr. Holland*), 2600-2601, 2627, 2632.
- Ambulance station suggested, (*Mr. Ryan*), 1580, (*Mr. Holland*), 2599, 2629.
- Area served by, (*Mr. Woods*), 2211-2213.
- Casualties, conveyance to, (*Mr. Gomme*), 1253; (*Mr. Woods*), 2189-2213, 2258-2266; (*Dr. Ridewood*), 3597.
- (See also Appendix I.)
- Reception, question as to refusal to admit, (*Mr. Woods*), 2227-2229, 2252-2257; (*Mr. Holland*), 2615-2617.
- Number of cases received, (*Mr. Woods*), 2208-2209.

London Temperance Hospital:

- Casualties, conveyance to, (*Mr. Gomme*), 1253.
- (See also Appendix I. (C).)

Manchester Ambulance Service:

- (See also the Memorandum on the Service in Appendix VII.), (*Dr. Collie*), 1768-1709, 1772-1773; (*Mr. Dent*), 3580-3588; (*Mr. Mann*), 3881-3884.
- Hospitals, decentralisation. (*Mr. Harrison*), 454.

Metropolitan Asylums Board Ambulance Service:**(A).—INFECTIOUS SERVICE AND GENERALLY:**

- Ambulances, description, number, &c., (see also under subheading Establishment): (*Mr. Lyon*), 587, 662-665; (*Mr. Mann*), 931, 978.
- Ambulance Stations, see under subhead Stations.
- Attendants with ambulances, (*Mr. Lyon*), 602-608, 666-667; (*Mr. Mann*), 933, 975-976; (*Mr. Morris*), 3090 (iv., (d)).
- Cost, (*Mr. Mann*), 952, 962-964, 3834-3840. (See also Appendix X. (C).)
- Charges for, (*Mr. Morris*), 3090 (i).
- Disinfection of ambulances, (*Mr. Lyon*), 769-710; (*Mr. Mann*), 933, 946; (*Sir John Furlley*), 1199-1200.
- District served, (*Mr. Mann*), 961.
- Efficiency of the service, (*Mr. Harrison*), 466; (*Mr. Lyon*), 667-669; (*Sir John Furlley*), 1183; (*Mr. Osborn*), 2507; (*Mr. Morris*), 3150, 3162, 3164; (*Sir William Church*), 3236.
- Establishment, (*Mr. Lyon*), 587, 662-665; (*Mr. Mann*), 931-934, 952-961, 3749-3751; (*Mr. Morris*), 3090 (i.), 3162.
- Horsing, (*Mr. Mann*), 931-933.
- Hospitals, see under subhead Stations.
- London County Council, proposed transfer of powers to, (*Mr. Dent*), 3574; (*Mr. Mann*), 3851-3855.
- Motor ambulances, (*Mr. Lyon*), 598-601, 664-665, 703-707; (*Mr. Mann*), 954-960, 3677-3688, 3777-3782.
- Non-infectious service, see sub-division (B).
- Number of cases dealt with, (*Mr. Lyon*), 579-582, (*Mr. Mann*), 952. (See also Appendix X. (A).)
- Nurses accompanying the ambulances, (*Mr. Mann*), 933, 975.

Metropolitan Asylums Board—continued.**(A).—INFECTIOUS SERVICE—continued.**

- Police, report breach of regulations, (*Mr. Mann*), 933.
- Traffic facilities, afforded, (*Mr. Mann*), 933.
- Rapidity, (*Mr. Lyon*), 587-588, 591-592, 598; (*Mr. Mann*), 949-951; (*Mr. Adams*), 3366.
- Scope, (*Dr. Downes*), 2909-2910, 2961-2963, 2981-2983; (*Mr. Morris*), 3090 (i.).
- Separation from non-infectious service, see under sub-division (B).
- Staff, (*Mr. Mann*), 933.
- Control of, (*Mr. Mann*), 3717-3720, 3726; (*Sir Edward Henry*), 3908-3915, 3984, 4035.
- Stations, accommodation, (*Mr. Mann*), 931-933.
- Situation of, (*Mr. Lyon*), 611-612; (*Mr. Mann*), 947-951, 3736; (*Mr. Morris*), 3146.
- Summoning, modes of, (*Mr. Lyon*), 587-591, 636; (*Mr. Mann*), 965-973.
- Telephone service, (*Mr. Lyon*), 587, 636; (*Mr. Mann*), 931, 965, 970-971, 3697-3699, 3711.

(B).—NON-INFECTIOUS SERVICE.

- Ambulance authority, question of, see under sub-heading Extent—Possibility.
- Attendants with ambulances, (*Mr. Lyon*), 602-608; (*Mr. Mann*), 952, 976; (*Mr. Morris*), 3090 (iv., (d)), 3146; (*Sir Edward Henry*), 3913, 3915, 4037.
- Police, at ambulance stations, (*Mr. Mann*), 3717-3720, 3726; (*Sir Edward Henry*), 3908-3915, 3984-3986, 4035-4038.
- Charges for, (*Sir Edward Henry*), 85; (*Mr. Lyon*), 588-589, 614-615, 630; (*Mr. Mann*), 935, 977, 3787-3789; (*Mr. McDonagh*), 2354-2356; (*Mr. Morris*), 3090 (ii., (d)).
- Disinfection, see under subheading Infection.
- Establishment, (*Sir Edward Henry*), 79-88, 173-175; (*Mr. Lyon*), 583-586, 690-691; (*Mr. Mann*), 935-943, 946, 3861-3864; (*Mr. Gomme*), 1269-1275, 1319.
- Extent of, present, (*Sir Edward Henry*), 79, 85-88; (*Mr. Lyon*), 584-587, 591-598, 614-662, 684-689; (*Mr. Mann*), 943-945, 978, 3676-3677, 3689-3691, 3756-3758, 3762-3767; (*Dr. Downes*), 2975; (*Mr. Adams*), 3365-3366.
- Possibility of extension, (*Sir Edward Henry*), 100; (*Mr. Lyon*), 633, 659-661; (*Mr. Mann*), 952, 978-986, 3672-3677, 3762-3776, 3870-3873, 3879-3881; (*Sir John Furlley*), 1183-1184, 1195-1197; (*Mr. Bryant*), 1414; (*Mr. McDonagh*), 2354-2356; (*Mr. Osborn*), 2504-2507; (*Dr. Downes*), 2917, 2930-2931, 2977; (*Mr. Morris*), 3146-3151, 3164, 3176-3178; (*Sir William Church*), 3264-3270, 3305-3314, 3330; (*Mr. Dent*), 3445-3449, 3463-3464, 3564-3589.
- Finance, as respects street cases, (*Sir Edward Henry*), 85; (*Mr. Lyon*), 589-591; (*Mr. Mann*), 977, 3731-3738, 3875-3879. (See also under subheading Charges).
- Illegality, question of, see under subheading Legality.
- Infection, question as to, (*Mr. Harrison*), 463, 466-470; (*Mr. Lyon*), 708-714; (*Mr. Mann*), 933, 946, 3714-3716, 3739-3741, 3762-3771, 3819-3833, 3848-3850, 3870-3873; (*Capt. Nott-Bower*), 1130; (*Sir John Furlley*), 1183, 1198-1200, 1210-1216; (*Mr. Bryant*), 1476-1479; (*Dr. Collie*), 1764-1766, 1794-1797; (*Mr. McDonagh*), 2353-2355; (*Mr. Osborn*), 2504-2507; (*Lord Leigh*), 2837-2839; (*Dr. Downes*), 2985-2990; (*Mr. Morris*), 3090 (ii., (d)), 3147-3151; (*Sir William Church*), 3266; (*Mr. Dent*), 3576-3588; (*Sir Edward Henry*), 3901-3907, 3987.
- Legality, question of, (*Mr. Lyon*), 587, 613, 632, 673-678, 735-736; (*Mr. Mann*), 935-946, 985-986, 3731-3738; (*Mr. Bryant*), 1471-1475; (*Dr. Downes*), 2908-2915, 2930-2931, 2954, 2961-2963, 2977-2983.
- Local Government Board, see under heading.
- London County Council, communications with, (*Mr. Mann*), 936-941; (*Mr. Gomme*), 1269-1275, 1326.
- Metropolitan Police, use by, see under subheading Police.

Metropolitan Asylums Board—continued.**(B.)—NON-INFECTIOUS SERVICE—continued.**

- Number of cases conveyed, *see under subheading* Extent.
- Payment for, *see under subheading* Charges.
- Police, Metropolitan, use by, (*Sir Edward Henry*), 4-9, 79-88, 101, 173-176; (*Supt. Olive*), 361; (*Mr. Lyon*), 583-597, 687-691; (*Mr. Mann*), 935, 944-947, 3731-3737, 3756-3758; (*Mr. Gomme*), 1271; (*Dr. Downes*), 2964-2968, 2975-2976; (*Mr. Morris*), 3090 (iii. (c)).
- Poor Law cases, question of transport, (*Dr. Downes*), 2977-2983; (*Mr. Morris*), 3164, 3176-3178; (*Sir William Church*), 3266; (*Mr. Mann*), 3674, 3752, 3865-3869.
- Possibilities of Extension, *see under subheading* Extent—Possibility.
- Prejudice against, question of, *see under subheading* Infection.
- Private cases, use for, (*Sir Edward Henry*), 100-101; (*Mr. Lyon*), 583-586, 684-689; (*Mr. Mann*), 943-945, 3672-3675, 3692-3693; (*Mr. McDonagh*), 2351-2356; (*Dr. Downes*), 2961-2963, 2975; (*Mr. Morris*), 3164; (*Mr. Adams*), 3365-3366.
- Resolution of Board extending the service, (*Mr. Lyon*), 672-674; (*Mr. Mann*), 935.
- Scope of, *see under subheadings* Extent, Legality, Police, Private Cases.
- Street cases, use for, *see under subheading* Police.

Metropolitan Common Poor Fund, (*Mr. Mann*), 935.**Metropolitan Police :**

- Ambulance Authority, suggestions as to, (*Sir Edward Henry*), 100-101, 3888-3898, 4028-4029; (*Mr. Harrison*), 463; (*Mr. Lyon*), 650, 679; (*Sir John Furley*), 1184; (*Mr. Gomme*), 1313-1316; (*Mr. Bryant*), 1373-1375; (*Mr. Osborn*), 2435-2438, 2509-2516, 2557-2565; (*Mr. Morris*), 3094-3114, 3134-3135, 3146, 3151, 3155-3158, 3164; (*Sir William Church*), 3255-3257, 3305-3306; (*Mr. Dent*), 3462-3464, 3473, 3567-3579.
- Ambulance Service :
- Ambulances, *see under* Horsed Ambulances, Litters.
- Bischoffsheim service, *see under heading*.
- City Police, co-operation with, (*Sir Edward Henry*), 220-221; (*Capt. Nott-Bower*), 1172-1173; (*Sir William Church*), 3233.
- Duties of, interfering with other police duties, *see under heading* LITTERS, Police Duties.
- Establishment, (*Sir Edward Henry*), 4, 18-21, 44-47; (*Mr. Morris*), 3090 (iii.).
- Experimental, horsed ambulances, (*Sir Edward Henry*), 32-40; (*Mr. Dent*), 3471-3473.
- Motor ambulance, (*Sir Edward Henry*), 3941-3942.
- Extensions suggested, *see under subheading* Ambulance Authority.
- Horsed ambulances, Police, (*Sir Edward Henry*), 4, 34-39, 118-130; (*Mr. Harrison*), 419; (*Mr. Lyon*), 692-693; (*Mr. Gomme*), 1319; (*Dr. Collie*), 1748-1749; (*Mr. Morris*), 3096 (iii. (a)), 3191-3193; (*Mr. Dent*), 3471-3480.
- Private, available to Police, (*Mr. Dent*), 3403.
- Litters, Appliances with, *see under heading* LITTERS, Appliances.
- Cost, (*Mr. Dent*), 3464, 3468. (*See also under heading* LITTERS, Police Duties).
- Drunken persons, use for, (*Dr. James*), 773, 886; (*Capt. Nott-Bower*), 1087; (*Dr. Collie*), 1698, 1724 (7); (*Mr. Higgs*), 2737; (*Mr. Dent*), 3437.
- Efficiency, *see under heading* LITTERS, Speed.
- Improvements made, (*Sir Edward Henry*), 21, 103; (*Mr. Ryan*), 1565, 1613-1615; (*Mr. Dent*), 3431, 3435.
- Number of, (*Sir Edward Henry*), 18-21, 104-106, 139, 211-215, 3892-3894, 4032-4034; (*Supt. Cole*), 229-232, 312-315; (*Supt. Olive*), 363; (*Dr. James*), 778, 817, 911, 917; (*Mr. Dent*), 3467-3468.
- Number of cases conveyed by, *see under subheading* Conveyances used.
- Stations, (*Sir Edward Henry*), 4, 18, 21-25, 136-138; (*Supt. Olive*), 363; (*Mr. Bryant*), 1414; (*Mr. Ryan*), 1555-1579; (*Mr. Dent*), 3468-3471.

Metropolitan Police—continued.**Ambulance Service—continued.****Litters—continued.****Stations—continued.**

- Difficulty of obtaining, (*Sir Edward Henry*), 18, 136-138, 214, 3975-3977; (*Sir John Furley*), 1183, 1224; (*Mr. Bryant*), 1414; (*Mr. Ryan*), 1556-1563, 1633; (*Mr. Dent*), 3469-3471.
- Indicators of, suggested, (*Mr. Lyon*), 636, 650; (*Mr. Ryan*), 1580.
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LONDON AMBULANCE SERVICE COMMITTEE.

MINUTES OF EVIDENCE

TAKEN BEFORE THE

DEPARTMENTAL COMMITTEE

ON THE

LONDON AMBULANCE SERVICE,

AT THE

HOME OFFICE, WHITEHALL.

VOLUME II.—MINUTES OF EVIDENCE WITH INDEX.

Presented to both Houses of Parliament by Command of His Majesty.



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